

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

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## 1 Documentation overview for hyperref

The documentation for package hyperref consists of several files:

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

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

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

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

**Bookmark talk, slides** Slides for the talk “PDF information and navigation elements with hyperref, pdfTeX and thumbpdf” at EuroT<sub>E</sub>X 1999.

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

Source code documentation:

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

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

**nameref.dtx** “Section name references in L<sup>A</sup>T<sub>E</sub>X”

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### 3 File hyccheck.tex

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

```

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

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

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

```

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

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

```

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

`\HyC@checkPackage`

```

18 \def\HyC@checkPackage{\%
19 \typeout{}}\%
20 \begingroup
21 \edef\x{\endgroup
22 \noexpand\RequirePackage{\HyC@package}}\%
23 \ifx\HyC@date\@empty\relax\else[\HyC@date]\fi\%
24 }\%
25 \x
26 \typeout{}}\%
27 \typeout{\%
28 * Package '\HyC@package'\%
29 \ifx\HyC@date\@empty
30 \else
31 \space\HyC@date
32 \fi
33 }\%
34 \@ifundefined{ver@\HyC@package.sty}{\%
35 }\typeout{\%
36 \space\space Loaded: '\HyC@package' \%
37 \csname ver@\HyC@package.sty\endcsname
38 }\%
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{hyccheck}{%
62       Unknown command '\expandafter\strip@prefix\meaning\HyC@cmd'%
63     }\@ehd
64     \expandafter\endinput
65   \fi
66   \@ifstar{%
67     \def\HyC@star{*}%
68     \HyC@check
69   }{%
70     \let\HyC@star\@empty
71     \HyC@check
72   }%
73 }
```

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

```

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

`\HyC@noValue`

```

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

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



```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```
231 \Hy@SetCatcodes
```

It needs the December 95 release of L<sup>A</sup>T<sub>E</sub>X, because it uses `\protected@write`, and it defines commands in options; and the page setup internal code changed at that point. It'll probably break with the later releases!

```

232 \RequirePackage{ltxcmds}[2010/03/09]
233 \RequirePackage{keyval}[1997/11/10]
234 \RequirePackage{kvsetkeys}[2007/09/29]
235 \RequirePackage{pdfescape}[2007/11/11]
236 \RequirePackage{ifpdf}[2006/02/20]
237 \RequirePackage{ifvtex}
238 \RequirePackage{ifxetex}[2006/08/21]
239 \RequirePackage{hycolor}
240 \RequirePackage{letltxmacro}[2008/06/13]
241 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
242 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
243 \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`.

```

244 \ifundefined{AfterBeginDocument}{%
245   \def\AfterBeginDocument{\AtBeginDocument}%
246 }{%

```

`\Hy@AtBeginDocument` For the case that package ‘hyperref’ is loaded using `\AtBeginDocument`, we have to wrap the calls of `\AtBeginDocument`/`\AfterBeginDocument` in `\AtEndOfPackage`. However, packages must be loaded in `\AtEndOfPackage` *before* package ‘kvoptions’ has to perform its option cleanup. Therefore we use a hook.

```

247 \def\Hy@AtBeginDocument{%
248   \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
249 }

```

`\Hy@AtEndOfPackage`

```
250 \def\Hy@AtEndOfPackage{%
```

```

251 \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
252 }

```

\Hy@AtBeginDocumentHook

```

253 \def\Hy@AtBeginDocumentHook{}

```

\Hy@AtEndOfPackageHook

```

254 \def\Hy@AtEndOfPackageHook{}

```

Install the hook, before package ‘kvoptions’ is loaded.

```

255 \AtEndOfPackage{%
256   \Hy@AtEndOfPackageHook
257   \let\Hy@AtEndOfPackageHook\@undefined
258   \AfterBeginDocument{%
259     \Hy@AtBeginDocumentHook}%
260   \let\Hy@AtBeginDocumentHook\@undefined
261   }%
262 }

```

### 4.3 Switches

```

263 \newif\ifHy@typexml
264 \newif\ifHy@activeanchor
265 \newif\ifHy@backref
266 \newif\ifHy@bookmarks
267 \newif\ifHy@bookmarksnumbered
268 \newif\ifHy@bookmarksopen
269 \newif\ifHy@breaklinks
270 \newif\ifHy@centerwindow
271 \newif\ifHy@CJKbookmarks
272 \newif\ifHy@colorlinks
273 \newif\ifHy@draft
274 \let\Hy@finaltrue\Hy@draftfalse
275 \let\Hy@finalfalse\Hy@drafttrue
276 \newif\ifHy@escapeform
277 \newif\ifHy@figures
278 \newif\ifHy@fitwindow
279 \newif\ifHy@frenchlinks
280 \newif\ifHy@hyperfootnotes
281 \newif\ifHy@hyperindex
282 \newif\ifHy@hypertextnames
283 \newif\ifHy@implicit
284 \newif\ifHy@linktocpage
285 \newif\ifHy@localanchorname
286 \newif\ifHy@menubar
287 \newif\ifHy@naturalnames
288 \newif\ifHy@nesting
289 \newif\ifHy@newwindowset
290 \newif\ifHy@newwindow
291 \newif\ifHy@ocgcolorlinks
292 \newif\ifHy@pageanchor
293 \newif\ifHy@pagelabels
294 \newif\ifHy@pdfpagehidden
295 \newif\ifHy@pdfstring
296 \newif\ifHy@plainpages
297 \newif\ifHy@psize
298 \newif\ifHy@raiselinks

```

```

299 \newif\ifHy@seminarslides
300 \newif\ifHy@setpagesize
301 \newif\ifHy@texht
302 \newif\ifHy@toolbar
303 \newif\ifHy@unicode
304 \newif\ifHy@usetitle
305 \newif\ifHy@verbose
306 \newif\ifHy>windowui
307 \newif\ifHy@displaydoctitle
308 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

309 \Hy@backreffalse
310 \Hy@bookmarksnumberedfalse
311 \Hy@bookmarksopenfalse
312 \Hy@bookmarkstrue
313 \Hy@breaklinksfalse
314 \Hy@centerwindowfalse
315 \Hy@CJKbookmarksfalse
316 \Hy@escapeformfalse
317 \Hy@figuresfalse
318 \Hy@fitwindowfalse
319 \Hy@hyperfootnotetrue
320 \Hy@hyperindextrue
321 \Hy@hypertextnamestrue
322 \Hy@implicittrue
323 \Hy@linktocpagefalse
324 \Hy@localanchornamefalse
325 \Hy@menubartrue
326 \Hy@naturalnamesfalse
327 \Hy@nestingfalse
328 \Hy@newwindowsetfalse
329 \Hy@newwindowfalse
330 \Hy@pageanchortrue
331 \Hy@pagelabelstrue
332 \Hy@pdfpagehiddenfalse
333 \Hy@pdfstringfalse
334 \Hy@plainpagesfalse
335 \Hy@raiselinksfalse
336 \Hy@setpagesizetrue
337 \Hy@texhtfalse
338 \Hy@toolbartrue
339 \Hy@typexmlfalse
340 \Hy@unicodefalse
341 \Hy@usetitlefalse
342 \Hy@verbosefalse
343 \Hy>windowuitrue
344 \Hy@displaydoctitlefalse
345 \Hy@pdfafalse

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

348 \newdimen\@linkdim
349 \let\Hy@driver\@empty
350 \let\MaybeStopEarly\relax
351 \newcount\Hy@linkcounter
352 \newcount\Hy@pagecounter
353 \Hy@linkcounter0
354 \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.

```

355 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
356 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

357 \let\Hy@ReturnEnd\@empty
358 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
359 \long\def\Hy@ReturnAfterElseFiFiEnd#1\else#2\Hy@ReturnEnd{\fi\fi#1}

```

## 5.2 Babel's protection of shorthand characters

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

```

360 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
361 \def\Hy@safe@activetruefalse{\csname @safe@activetruefalse\endcsname}

```

## 5.3 Coordinate transformations

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

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

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

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

Example (TeX):

```

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

```

`\hypercalcbp`

```
362 \begingroup\expandafter\expandafter\expandafter\endgroup
363 \expandafter\ifx\csname dimexpr\endcsname\relax
364 \def\hypercalcbpdef#1#2{%
365   \begingroup
366     \toks@{%
367       \HyCal@scan#2\hypercalcbp\@nil
368     }\expandafter\endgroup
369     \expandafter\def\expandafter#1\expandafter{\the\toks@}%
370   }%
371 \def\HyCal@scan#1\hypercalcbp#2\@nil{%
372   \toks@\expandafter{\the\toks@ #1}%
373   \ifx\#2\%
374     \else
375       \Hy@ReturnAfterFi{%
376         \HyCal@do#2\@nil
377       }%
378     \fi
379   }%
380 \def\HyCal@do#1#2\@nil{%
381   \ifpackageloaded{calc}{}%
382   \Hy@Warning{%
383     For calculations \string\hypercalcbp\space needs\MessageBreak
384     package calc or e-TeX%
385   }%
386   }%
387   \setlength{\dimen@}{#1}%
388   \setlength{\dimen@}{0.99626401\dimen@}%
389   \edef\x{%
390     \toks@{%
391       \the\toks@
392       \strip@pt\dimen@
393     }%
394   }\x
395   \HyCal@scan#2\@nil
396   }%
397 \else
398 \def\hypercalcbp#1{%
399   \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
400   }%
401 \def\hypercalcbpdef{\def}%
402 \fi
```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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 be processed by  $\text{\TeX}$ , because the tokens have only catcodes 10 until 12.

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

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

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

```
404 \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 (v $\text{\TeX}$  driver, Unicode support).

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

```
405 \escapechar'\%
```

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

```

406 \edef\0{\string\0}%
407 \edef\1{\string\1}%
408 \edef\2{\string\2}%
409 \edef\3{\string\3}%

```

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

The encoding is set by  $\backslash \text{enc@update}$  for optimizing reasons.

```

410 \ifHy@unicode
411 \edef\8{\string\8}%
412 \edef\9{\string\9}%
413 \fontencoding{PU}%
414 \HyPsd@UTFviii
415 \def\ifpdfstringunicode##1##2{##1}%
416 \else
417 \fontencoding{PD1}%
418 \def\ifpdfstringunicode##1##2{##2}%
419 \fi
420 \enc@update

```

**Internal encoding commands.**  $\backslash \text{pdfstringdef}$  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  $\backslash \text{@inmathwarn}$  will be disabled (see below).

```

421 \@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 ( $\backslash \text{edef}$ ), so that the assignments of  $\backslash \text{@changed@cmd}$  don't take place. To patch this behaviour I only found  $\backslash \text{@inmathwarn}$  as a usable hook. While an  $\backslash \text{edef}$  a warning message by  $\backslash \text{@inmathwarn}$  or  $\backslash \text{TextSymbolUnavailable}$  cannot be give out, so  $\backslash \text{@inmathwarn}$  should be disabled. And with the help of it the assignments in  $\backslash \text{@changed@cmd}$  can easily be caught (see below).

```

422 \let\@inmathwarn\HyPsd@inmathwarn

```

Unknown composite characters are built with  $\backslash \text{add@accent}$ , so it is redefined to provide a warning.

```

423 \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.

```

424 \let\{\textbraceleft
425 \let\}\textbraceright
426 \let\\textbackslash
427 \let\#\textnumbersign
428 \let\$\textdollar

```

```

429 \let%\textpercent
430 \let\&\textampersand
431 % \let\~\textasciitilde
432 \let\_ \textunderscore
433 \let\P\textparagraph
434 \let\ldots\textellipsis
435 \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.

```

436 \def\{\pdfstringdefWarn\}%
437 \def\newline{\pdfstringdefWarn\newline}%

```

**Logos.** Because the box shifting used in the T<sub>E</sub>X logo does not work while writing to a file, the standard T<sub>E</sub>X logos are redefined.

```

438 \def\TeX{\TeX}%
439 \def\LaTeX{\LaTeX}%
440 \def\LaTeXe{\LaTeX2e}%
441 \def\TeXe{\TeX}%
442 \def\SLiTeX{\SLiTeX}%
443 \def\MF{Metafont}%
444 \def\MP{Metapost}%

```

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

```

445 \let\fontencoding\@gobble
446 \let\fontfamily\@gobble
447 \let\fontseries\@gobble
448 \let\fontshape\@gobble
449 \let\fontsize\@gobbletwo
450 \let\selectfont\@empty
451 \let\usefont\@gobblefour
452 \let\emph\@firstofone
453 \let\textnormal\@firstofone
454 \let\textrm\@firstofone
455 \let\textsf\@firstofone
456 \let\texttt\@firstofone
457 \let\textbf\@firstofone
458 \let\textmd\@firstofone
459 \let\textit\@firstofone
460 \let\textsc\@firstofone
461 \let\textsl\@firstofone
462 \let\textup\@firstofone
463 \let\normalfont\@empty
464 \let\rmfamily\@empty
465 \let\sfamily\@empty

```

```

466 \let\ttfamily\@empty
467 \let\bfseries\@empty
468 \let\mdseries\@empty
469 \let\itshape\@empty
470 \let\scshape\@empty
471 \let\slshape\@empty
472 \let\upshape\@empty
473 \let\em\@empty
474 \let\rm\@empty
475 \let\Huge\@empty
476 \let\LARGE\@empty
477 \let\Large\@empty
478 \let\footnotesize\@empty
479 \let\huge\@empty
480 \let\large\@empty
481 \let\normalsize\@empty
482 \let\scriptsize\@empty
483 \let\small\@empty
484 \let\tiny\@empty
485 \let\mathversion\@gobble
486 \let\phantom\@gobble
487 \let\vphantom\@gobble
488 \let\hphantom\@gobble

```

#### Package color.

```

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

```

#### Upper- and lowercase.

```

490 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
491 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

492 \let\textlatin\@firstofone
493 \ltx@ifundefined{language@group}{\@firstofone}%
494 \csname HyPsd@babel@language@group\endcsname
495 }%
496 \HyPsd@GreekPatch
497 \HyPsd@SpanishPatch
498 \HyPsd@RussianPatch
499 \HyPsd@BabelPatch
500 \let\@safe@activetrue\relax
501 \let\@safe@activesfalse\relax

```

Disable \cyr, used in russianb.ldf.

```

502 \let\cyr\relax

```

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

```

503 \let\es@roman\@Roman

```

#### Package german.

```

504 \let\glqq\textglqq
505 \let\grqq\textgrqq
506 \let\glq\textglq

```

```

507 \let\grq\textgrq
508 \let\flqq\textflqq
509 \let\frqq\textfrqq
510 \let\flq\textflq
511 \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}

512 \let\if@mid@expandable\@firstoftwo

```

**AMS classes.**

```

513 \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.

```

514 \let\hspace\HyPsd@hspace

```

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

```

515 \let\label\@gobble
516 \let\index\@gobble
517 \let\glossary\@gobble
518 \let\href\@secondoftwo
519 \let\@mkboth\@gobbletwo

```

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

```

520 \let\ref\HyPsd@ref
521 \let\pageref\HyPsd@pageref
522 \let\nameref\HyPsd@nameref
523 \let\autoref\HyPsd@autoref

```

**Miscellaneous commands.**

```

524 \let\leavevmode\@empty
525 \let\mbox\@empty

```

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

```

526 \def\halign{\pdfstringdef\Warn\halign\@gobble}%
527 \let\ignorespaces\HyPsd@ignorespaces
528 \let\Hy@SectionAnchorHref\@gobble

```

**Patch for cjk bookmarks.**

```

529 \HyPsd@CJKhook

```

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

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

```
530 \Hy@pdfstringtrue
531 \pdfstringdefPreHook
```

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

```
532 \HyPsd@LetUnexpandableSpace\space
533 \HyPsd@LetUnexpandableSpace\ %
534 \HyPsd@LetUnexpandableSpace~%
535 \HyPsd@LetUnexpandableSpace\nobreakspace
```

**Package `xspace`.**

```
536 \ltx@ifundefined{@xspace}{%
537   \let\xspace\HyPsd@ITALCORR
538 }{%
539   \let\xspace\HyPsd@XSPACE
540 }%
541 \let\/\HyPsd@ITALCORR
542 \let\bgroup\/%
543 \let\egroup\/%
```

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

```
544 \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:

```
545 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
546 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
547 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
548 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'args':

```
549 \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).

```

550 \begingroup
551   \let\GenericError\@gobblefour
552   \let\GenericWarning\@gobbletwo
553   \let\GenericInfo\@gobbletwo

```

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

```

554 \ifx\nofrenchguillemets\@undefined
555   \else
556     \nofrenchguillemets
557   \fi

```

**Definition commands and expansion.** Redefining the defining commands (see sec. 6.5.12). The original meaning of `\xdef` is saved in `\Hy@temp`.

```

558 \let\Hy@temp\xdef
559 \let\def\HyPsd@DefCommand
560 \let\gdef\HyPsd@DefCommand
561 \let\edef\HyPsd@DefCommand
562 \let\xdef\HyPsd@DefCommand
563 \let\futurelet\HyPsd@LetCommand
564 \let\let\HyPsd@LetCommand
565 \Hy@temp#1{#2}%
566 \endgroup

```

### 6.2.3 Postprocessing

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

```
567 \ifx#1\@empty
568 \else
```

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

- T<sub>E</sub>X does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.
- An argument can be a single token or a group of many tokens. And within curly braces tokens aren't find by T<sub>E</sub>X's argument scanning process. Third curly braces as grouping characters cannot be expanded further, so they don't vanish by the string expansion above. So these characters with catcode 1 and 2 are removed in the following and replaced by an marker for the xspace support.
- T<sub>E</sub>X 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.

```
569 \HyPsd@ProtectSpaces#1%
570 \let\HyPsd@String\@empty
571 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
572 \global\let#1\HyPsd@String
```

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

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

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

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

```
573 \let\HyPsd@SPACEOPTI\relax
574 {%
575 \let\HyPsd@String\@empty
576 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
577 \global\let#1\HyPsd@String
578 }%
579 \expandafter\HyPsd@RemoveMask\expandafter
580 \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.

```
581 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
582 \let\HyPsd@String\@empty
583 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
584 \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.

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

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

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

```
586 \ifHy@unicode
587 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
588 \HyPsd@SPACEOPTI#1%
589 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
590 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
591 {\HyPsd@SPACEOPTI\80\273}#1%
592 \else
593 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
594 \expandafter\HyPsd@Subst\expandafter{%
595 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
596 \string\273}{\HyPsd@SPACEOPTI\273}#1%
597 \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.

```
598 \ifHy@unicode
599 \HyPsd@StringSubst{\)}{\80\051}#1%
600 \HyPsd@Subst){\80\051}#1%
601 \let\HyPsd@empty\relax
602 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
603 {\HyPsd@empty\80\051}#1%
604 \else
605 \HyPsd@StringSubst{\)}{\051}#1%
606 \HyPsd@Subst){\051}#1%
607 \let\HyPsd@empty\relax
```

```

608      \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
609      \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.

```

610      \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
611      \ltx@ifundefined{@xspace}{%
612      }{%
613          \let\HyPsd@xspace\relax
614          \expandafter\HyPsd@Subst\expandafter
615              {\HyPsd@XSPACE}\HyPsd@xspace#1%
616          \let\HyPsd@xspace\HyPsd@doxspace
617      }%
618      \xdef#1{#1\HyPsd@empty}%

```

**Ligatures.** T<sub>E</sub>X forms ligatures in its stomach, but the PDF strings are treated only by T<sub>E</sub>X'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.

```

619      \HyPsd@Subst{---}\textemdash#1%
620      \HyPsd@Subst{--}\textendash#1%
621 %      \HyPsd@Subst{fi}\textfi#1%
622 %      \HyPsd@Subst{fl}\textfl#1%
623      \HyPsd@Subst{!'}\textexclamdown#1%
624      \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

625      \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 T<sub>E</sub>X memory and time.

```

626      \ifHy@unicode
627          \HyPsd@StringSubst{\textparenleft#1%
628          \HyPsd@Subst(\textparenleft#1%
629      \else

```

```

630 \HyPsd@StringSubst\({\050}#1%
631 \HyPsd@Subst({\050}#1%
632 \HyPsd@StringSubst{\050}{\string\{ }#1%
633 \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.

```

634 \ifHy@unicode
635 \edef\HyPsd@SPACEOPTI{\80\040}%
636 \else
637 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
638 \fi
639 \xdef#1{#1\@empty}%
640 \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.

```

641 \endgroup
642 \begingroup
643 \ifHy@unicode
644 \HyPsd@ConvertToUnicode#1%

```

**Try conversion back to PDFDocEncoding.**

```

645 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
646 \ltx@ifundefined{StringEncodingConvertTest}{%
647 }{%
648 \EdefUnescapeString\HyPsd@temp#1%
649 \ifxetex
650 \let\HyPsd@UnescapedString\HyPsd@temp
651 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
652 {utf16be}{ascii-print}{%
653 \EdefEscapeString\HyPsd@temp\HyPsd@temp
654 \global\let#1\HyPsd@temp
655 \Hy@unicodedefalse
656 }{%
657 \HyPsd@ToBigChars#1%
658 }%
659 \else
660 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
661 {utf16be}{pdfdoc}{%
662 \EdefEscapeString\HyPsd@temp\HyPsd@temp
663 \global\let#1\HyPsd@temp
664 \Hy@unicodedefalse
665 }{%
666 \fi
667 }%
668 \fi
669 \fi
670 \HyPsd@XeTeXBigCharsfalse

```

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

```
671 \pdfstringdefPostHook#1%
672 \endgroup
673 }
```

`\Hy@pdfstringdef`

```
674 \def\Hy@pdfstringdef#1#2{%
675 \pdfstringdef\Hy@gtemp{#2}%
676 \let#1\Hy@gtemp
677 }
```

## 6.3 Encodings

### 6.3.1 XeTeX

```
678 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
679 \catcode\z@=12 %
680 \ifxetex
681 \expandafter\@firstofone
682 \else
683 \let\HyPsd@XeTeXBigCharstrue\@empty
684 \let\HyPsd@XeTeXBigCharsfalse\@empty
685 \expandafter\@gobble
686 \fi
687 {%
688 \newif\ifHyPsd@XeTeXBigChars
689 \def\HyPsd@XeTeXBigCharsfalse{%
690 \global\let\ifHyPsd@XeTeXBigChars\iffalse
691 }%
692 \def\HyPsd@XeTeXBigCharstrue{%
693 \global\let\ifHyPsd@XeTeXBigChars\iftrue
694 }%
695 \def\HyPsd@ToBigChars#1{%
696 \ifHyPsd@XeTeXBigChars
697 \EdefEscapeHex\HyPsd@UnescapedString{%
698 \expandafter\@gobbletwo\HyPsd@UnescapedString
699 }%
700 \begingroup
701 \toks@{%
702 \escapechar=92\relax
703 \let\x\HyPsd@ToBigChar
704 \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
705 \relax\relax\relax\relax\relax\relax
706 \edef\x{%
707 \endgroup
708 \gdef\noexpand#1{\the\toks@}%
709 }%
710 \x
711 \fi
712 }%
713 \def\HyPsd@ToBigChar#1#2#3#4{%
714 \ifx\relax#1\relax
715 \let\x\relax
716 \else
717 \count@=#1#2#3#4\relax
718 \let\y\@empty
```

```

719 \lccode\z@=\count@
720 \ifnum\count@=40 % (
721 \let\y\@backslashchar
722 \else
723 \ifnum\count@=41 % )
724 \let\y\@backslashchar
725 \else
726 \ifnum\count@=92 % backslash
727 \let\y\@backslashchar
728 \else
729 \ifnum\count@=10 % newline
730 \edef\y###1{\string\n}%
731 \else
732 \ifnum\count@=13 % carriage return
733 \edef\y###1{\string\r}%
734 \fi
735 \fi
736 \fi
737 \fi
738 \fi
739 \lowercase{%
740 \toks@\expandafter{%
741 \the\expandafter\toks@
742 \y
743 ^^@%
744 }%
745 }%
746 \fi
747 \x
748 }%
749 }
750 \Hy@temp

```

### 6.3.2 Workaround for package linguex

```

751 \@ifpackageloaded{linguex}{%
752 \let\HyLinguex@OrgB\b
753 \let\HyLinguex@OrgC\c
754 \let\HyLinguex@OrgD\d
755 \def\HyLinguex@Restore{%
756 \let\b\HyLinguex@OrgB
757 \let\c\HyLinguex@OrgC
758 \let\d\HyLinguex@OrgD
759 }%
760 \Hy@AtEndOfPackage{%
761 \pdfstringdefDisableCommands{%
762 \ltx@ifundefined{oldb}{\let\b\oldb}%
763 \ltx@ifundefined{oldc}{\let\c\oldc}%
764 \ltx@ifundefined{oldd}{\let\d\oldd}%
765 }%
766 }%
767 }{%
768 \let\HyLinguex@Restore\relax
769 }%

```

### 6.3.3 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with  $\text{\LaTeX 2}_{\epsilon}$ 's NFSS. Because the informational strings are not set by  $\text{\TeX}$ 's typesetting mechanism but for inter-

preting 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.

```

770 \ifundefined{T@PD1}{%
771   \input{pdlenc.def}%
772   \HyLinguex@Restore
773 }{}
774 \DeclareFontFamily{PD1}{pdf}{}
775 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
776 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

### 6.3.4 PU encoding

The PU encoding implements the Unicode encoding for use with L<sup>A</sup>T<sub>E</sub>X's NFSS. Because of large memory requirements the encoding file for Unicode support is only loaded, if option unicode is specified as package option.

`\HyPsd@InitUnicode` Because the file puenc.def takes a lot of memory, the loading is defined in the macro `\HyPsd@InitUnicode` called by the package option unicode.

```

777 \def\HyPsd@InitUnicode{%
778   \ifundefined{T@PU}{%
779     \input{puenc.def}%
780     \HyLinguex@Restore
781   }{}%
782   \DeclareFontFamily{PU}{pdf}{}%
783   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
784   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
785   \let\HyPsd@InitUnicode\relax
786 }

```

## 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.

```

787 \def\texorpdfstring{%
788   \ifHy@pdfstring
789     \expandafter\@secondoftwo
790   \else
791     \expandafter\@firstoftwo
792   \fi
793 }

```

### 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`.

```

794 \ifundefined{pdfstringdefPreHook}{%
795   \let\pdfstringdefPreHook\@empty
796 }{}

```

```

797 \@ifundefined{pdfstringdefPostHook}{%
798   \let\pdfstringdefPostHook\@gobble
799 }{}

```

`\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`.

```

800 \def\pdfstringdefDisableCommands{%
801   \begingroup
802   \makeatletter
803   \HyPsd@DisableCommands
804 }

```

`\HyPsd@DisableCommands`

```

805 \long\def\HyPsd@DisableCommands#1{%
806   \toks0=\expandafter{\pdfstringdefPreHook}%
807   \toks1={#1}%
808   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
809 \endgroup
810 }

```

`\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`.

```

811 \def\pdfstringdefWarn#1{%
812   \expandafter\noexpand\csname<>-string#1\endcsname
813 }

```

## 6.5 Help macros for expansion

### 6.5.1 `\ignorespaces`

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

```

814 \begingroup

```

```

815 \catcode0=12 %
816 \def\x{\endgroup
817 \def\HyPsd@ignorespaces{%
818   \romannumeral\expandafter'\expandafter^^@%
819   \romannumeral'^^@%
820 }%
821 }%
822 \x

```

### 6.5.2 Babel languages

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

```

\pdfstringdefDisableCommands{%
  \languageshorthands{system}%
}

```

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

```

823 \def\HyPsd@BabelPatch{%
824   \let\HyOrg@languageshorthands\languageshorthands
825   \let\languageshorthands\HyPsd@LanguageShorthands
826 }
827 \RequirePackage{pdfdoccmds}[2009/04/10]
828 \begingroup\expandafter\expandafter\expandafter\endgroup
829 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
830   \let\HyPsd@langshort@system\@empty
831   \def\HyPsd@LanguageShorthands#1{%
832     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
833       \HyPsd@langshort@system
834     \expandafter\@gobble
835   \else
836     \expandafter\@firstofone
837   \fi
838   {%
839     \HyOrg@languageshorthands{#1}%
840   }%
841 }%
842 \else
843   \def\HyPsd@LanguageShorthands#1{%
844     \ifnum\pdf@strcmp{#1}{system}=\z@
845       \expandafter\@gobble
846     \else
847       \expandafter\@firstofone
848     \fi
849     {%
850       \HyOrg@languageshorthands{#1}%
851     }%
852   }%
853 \fi
854 \def\Hy@temp{%
855   \@ifpackageloaded{babel}{%
856     \@ifpackagelater{babel}{2008/03/16}{%
857       \let\Hy@temp\@empty
858     }{%

```



```

859 \def\HyPsd@BabelPatch{%
860 \let\HyOrg@languageshorthands\languageshorthands
861 }%
862 }%
863 }{}%
864 }
865 \Hy@temp
866 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
867 \newif\ifHy@next

Nothing to do for english.

868 \ltx@ifundefined{danish@sh@"@sel}{}{}%
869 \def\HyPsd@babel@danish{%
870 \declare@shorthand{danish}{"}{}%
871 \declare@shorthand{danish}{"}~{}{}%
872 }%
873 }
874 \ltx@ifundefined{dutch@sh@"@sel}{}{}%
875 \def\HyPsd@babel@dutch{%
876 \declare@shorthand{dutch}{"}{}%
877 \declare@shorthand{dutch}{"}~{}{}%
878 }%
879 }
880 \ltx@ifundefined{finnish@sh@"@sel}{}{}%
881 \def\HyPsd@babel@finnish{%
882 \declare@shorthand{finnish}{"}{}%
883 }%
884 }
885 \ltx@ifundefined{french@sh@"@sel}{}{}%
886 \def\HyPsd@babel@frenchb{%
887 \def\guill@spacing{ }%
888 }%
889 }
890 \ltx@ifundefined{german@sh@"@sel}{}{}%
891 \def\HyPsd@babel@german{%
892 \declare@shorthand{german}{"}f{}f{}%
893 \declare@shorthand{german}{"}|{}{}%
894 \declare@shorthand{german}{"}~{}{}%
895 }%
896 }
897 \ltx@ifundefined{macedonian@sh@"@sel}{}{}%
898 \def\HyPsd@babel@macedonian{%
899 \declare@shorthand{macedonian}{"}|{}{}%
900 \declare@shorthand{macedonian}{"}~{}{}%
901 }%
902 }{}
903 \ltx@ifundefined{ngerman@sh@"@sel}{}{}%
904 \def\HyPsd@babel@ngerman{%
905 \declare@shorthand{ngerman}{"}|{}{}%
906 \declare@shorthand{ngerman}{"}~{}{}%
907 }%
908 }
909 \ltx@ifundefined{portuges@sh@"@sel}{}{}%
910 \def\HyPsd@babel@portuges{%
911 \declare@shorthand{portuges}{"}|{}{}%
912 }%
913 }

```

```

914 \ltx@ifundefined{russian@sh@"@sel}{-}{%
915   \def\HyPsd@babel@russian{%
916     \declare@shorthand{russian}{-}{-}%
917     \declare@shorthand{russian}{-}{-}%
918   }%
919 }
920 \ltx@ifundefined{slovene@sh@"@sel}{-}{%
921   \def\HyPsd@babel@slovene{%
922     \declare@shorthand{slovene}{-}{-}%
923   }%
924 }

```

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

```

925 \ltx@ifundefined{spanish@sh@>@sel}{-}{%
926   \def\HyPsd@babel@spanish{%
927     \declare@shorthand{spanish}{<<}{\guillemotleft}%
928     \declare@shorthand{spanish}{>>}{\guillemotright}%
929     \declare@shorthand{spanish}{=}{}-%
930     \declare@shorthand{spanish}{-}{-}%
931     \declare@shorthand{spanish}{!}{\textexclamdown}%
932     \declare@shorthand{spanish}{?}{\textquestiondown}%
933   }%
934 }
935 \ltx@ifundefined{swedish@sh@"@sel}{-}{%
936   \def\HyPsd@babel@swedish{%
937     \declare@shorthand{swedish}{-}{-}%
938     \declare@shorthand{swedish}{-}{-}%
939   }%
940 }
941 \ltx@ifundefined{ukrainian@sh@"@sel}{-}{%
942   \def\HyPsd@babel@ukrainian{%
943     \declare@shorthand{ukrainian}{-}{-}%
944     \declare@shorthand{ukrainian}{-}{-}%
945   }%
946 }
947 \ltx@ifundefined{usorbian@sh@"@sel}{-}{%
948   \def\HyPsd@babel@usorbian{%
949     \declare@shorthand{usorbian}{f}{f}%
950     \declare@shorthand{usorbian}{-}{-}%
951   }%
952 }
953 \ltx@ifundefined{greek@sh@\string~@sel}{-}{%
954   \let\HyPsd@GreekPatch\@empty
955 }{%
956   \def\HyPsd@GreekPatch{%
957     \let\greeknumeral\HyPsd@greeknumeral
958     \let\Greeknatural\HyPsd@greeknumeral
959   }%
960 }
961 \def\HyPsd@greeknumeral#1{%
962   \HyPsd@GreekNum\@firstoftwo{#1}%
963 }
964 \def\HyPsd@Greeknumeral#1{%
965   \HyPsd@GreekNum\@secondoftwo{#1}%
966 }
967 \def\HyPsd@GreekNum#1#2{%
968   \ifHy@unicode
969     \ifnum#2<\@ne

```

```

970 \@arabic{#2}%
971 \else
972 \ifnum#2<1000000 %
973 \HyPsd@@GreekNum#1{#2}%
974 \else
975 \@arabic{#2}%
976 \fi
977 \fi
978 \else
979 \@arabic{#2}%
980 \fi
981 }
982 \def\HyPsd@@GreekNum#1#2{%
983 \ifnum#2<\@m
984 \ifnum#2<10 %
985 \expandafter\HyPsd@GreekNumI
986 \expandafter\@gobble\expandafter#1\number#2%
987 \else
988 \ifnum#2<100 %
989 \expandafter\HyPsd@GreekNumII
990 \expandafter\@gobble\expandafter#1\number#2%
991 \else
992 \expandafter\HyPsd@GreekNumIII
993 \expandafter\@gobble\expandafter#1\number#2%
994 \fi
995 \fi
996 \ifnum#2>\z@
997 \textnumeralsigngreek
998 \fi
999 \else
1000 \ifnum#2<\@M
1001 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1002 \else
1003 \ifnum#2<100000 %
1004 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1005 \else
1006 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1007 \fi
1008 \fi
1009 \fi
1010 }
1011 \def\HyPsd@GreekNumI#1#2#3{%
1012 #1{%
1013 \ifnum#3>\z@
1014 \textnumeralsignlowergreek
1015 \fi
1016 }%
1017 \expandafter#2%
1018 \ifcase#3 %
1019 {}{}%
1020 \or\textalpha\textAlpha
1021 \or\textbeta\textBeta
1022 \or\textgamma\textGamma
1023 \or\textdelta\textDelta
1024 \or\textepsilon\textEpsilon
1025 \or\textstigmagreek\textStigmagreek
1026 \or\textzeta\textZeta

```

```

1027 \or\texteta\textEta
1028 \or\texttheta\textTheta
1029 \else
1030   {}{}%
1031 \fi
1032 }
1033 \def\HyPsd@GreekNumII#1#2#3#4{%
1034   #1{%
1035     \ifnum#3>\z@
1036       \textnumeralsignlowergreek
1037     \fi
1038   }%
1039   \expandafter#2%
1040   \ifcase#3 %
1041     {}{}%
1042     \or\textiota\textIota
1043     \or\textkappa\textKappa
1044     \or\textlambda\textLambda
1045     \or\textmu\textMu
1046     \or\textnu\textNu
1047     \or\textxi\textXi
1048     \or\textomicron\textOmicron
1049     \or\textpi\textPi
1050     \or\textkoppagreek\textKoppagreek
1051     \else
1052       {}{}%
1053     \fi
1054   \HyPsd@GreekNumI#1#2#4%
1055 }
1056 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1057   #1{%
1058     \ifnum#3>\z@
1059       \textnumeralsignlowergreek
1060     \fi
1061   }%
1062   \expandafter#2%
1063   \ifcase#3 %
1064     {}{}%
1065     \or\textrho\textRho
1066     \or\textsigma\textSigma
1067     \or\texttau\textTau
1068     \or\textupsilon\textUpsilon
1069     \or\textphi\textPhi
1070     \or\textchi\textChi
1071     \or\textpsi\textPsi
1072     \or\textomega\textOmega
1073     \or\textsampigreek\textSampigreek
1074     \else
1075       {}{}%
1076     \fi
1077   \HyPsd@GreekNumII#1#2#4#5%
1078 }
1079 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1080   \HyPsd@GreekNumI\@firstofone#1#2%
1081   \HyPsd@@GreekNum#1{#3#4#5}%
1082 }
1083 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%

```

```

1084 \HyPsd@GreekNumII\@firstofone#1#2#3%
1085 \HyPsd@@GreekNum#1{#4#5#6}%
1086 }
1087 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1088 \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1089 \HyPsd@@GreekNum#1{#5#6#7}%
1090 }

1091 \def\HyPsd@SpanishPatch{%
1092 \ltx@ifundefined{es@save@dot}{%
1093 }{%
1094 \let\.\es@save@dot
1095 }%
1096 }

```

Shorthand "- of 'russianb.ldf' is not expandable, therefore it is disabled and replaced by -.

```

1097 \def\HyPsd@RussianPatch{%
1098 \ltx@ifundefined{russian@sh@"@-@}{%
1099 }{%
1100 \@namedef{russian@sh@"@-@}{-}%
1101 }%
1102 }

```

### 6.5.3 CJK patch

```

1103 \RequirePackage{intcalc}[2007/09/27]

```

\HyPsd@CJKhook

```

1104 \def\HyPsd@CJKhook{%
1105 \ltx@ifpackageloaded{CJK}{%
1106 \let\CJK@kern\relax
1107 \let\CJKkern\relax
1108 \let\CJK@CJK\relax
1109 \ifHy@CJKbookmarks
1110 \HyPsd@CJKhook@bookmarks
1111 \fi
1112 \HyPsd@CJKhook@unicode
1113 }{%
1114 }

```

### 6.5.4 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 (≥ 0x40).

```

1115 \begingroup
1116 \catcode"7F=\active
1117 \toks@{%
1118 \let\CJK@ignorespaces\empty
1119 \def\CJK@char#1{\@gobbletwo}%

```

```

1120 \let\CJK@charx\@gobblefour
1121 \let\CJK@punctchar\@gobblefour
1122 \def\CJK@punctcharx#1{\@gobblefour}%
1123 \catcode"7F=\active
1124 \def^^7f#1^^7f#2^^7f{%
1125   \string #1\HyPsd@DecimalToOctal{#2}%
1126 }%
1127 % ... ?
1128 \ifHy@unicode
1129   \def\Hy@cjkpup{\80}%
1130 \else
1131   \let\Hy@cjkpup\@empty
1132 \fi
1133 \HyPsd@CJKActiveChars
1134 }%
1135 \count@=127 %
1136 \@whilenum\count@<255 \do{%
1137   \advance\count@ by 1 %
1138   \lccode'\~=\count@
1139   \lowercase{%
1140     \toks@\expandafter{\the\toks@ ~}%
1141   }%
1142 }%
1143 \toks@\expandafter{\the\toks@ !}%
1144 \xdef\HyPsd@CJKhook@bookmarks{%
1145   \the\toks@
1146 }%
1147 \endgroup

```

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

```

1148 \def\HyPsd@CJKActiveChars#1{%
1149   \ifx#1!%
1150     \let\HyPsd@CJKActiveChars\relax
1151   \else
1152     \edef#1{\noexpand\Hy@cjkpup\string#1}%
1153   \fi
1154   \HyPsd@CJKActiveChars
1155 }

```

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

```

1156 \def\HyPsd@DecimalToOctal#1{%
1157   \ifcase #1 %
1158     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1159     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1160     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1161     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1162     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1163     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1164     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1165     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1166     \or @\or A\or B\or C\or D\or E\or F\or G%
1167     \or H\or I\or J\or K\or L\or M\or N\or O%
1168     \or P\or Q\or R\or S\or T\or U\or V\or W%
1169     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1170     \or \140\or a\or b\or c\or d\or e\or f\or g%
1171     \or h\or i\or j\or k\or l\or m\or n\or o%

```

```

1172 \or p\or q\or r\or s\or t\or u\or v\or w%
1173 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1174 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1175 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1176 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1177 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1178 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1179 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1180 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1181 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1182 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1183 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1184 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1185 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1186 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1187 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1188 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1189 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1190 \fi
1191 }

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1192 \def\HyPsd@CJKhook@unicode{%
1193 \let\Unicode\HyPsd@CJK@Unicode
1194 \let\CJKnumber\HyPsd@CJKnumber
1195 \let\CJKdigits\HyPsd@CJKdigits
1196 }

```

\HyPsd@CJK@Unicode

```

1197 \def\HyPsd@CJK@Unicode#1#2{%
1198 \ifnum#1<256 %
1199 \HyPsd@DecimalToOctalFirst{#1}%
1200 \HyPsd@DecimalToOctalSecond{#2}%
1201 \else
1202 \933%
1203 \expandafter\expandafter\expandafter\HyPsd@HighA
1204 \intcalcDiv{#1}{4}!%
1205 \933%
1206 \ifcase\intcalcMod{#1}{4} %
1207 4\or 5\or 6\or 7%
1208 \fi
1209 \HyPsd@DecimalToOctalSecond{#2}%
1210 \fi
1211 }

1212 \def\HyPsd@HighA#1!{%
1213 \expandafter\expandafter\expandafter\HyPsd@HighB
1214 \IntCalcDiv#1!64!!%
1215 \expandafter\expandafter\expandafter\HyPsd@HighD
1216 \IntCalcMod#1!64!!%
1217 }

1218 \def\HyPsd@HighB#1!{%
1219 \expandafter\expandafter\expandafter\HyPsd@HighC
1220 \IntCalcDec#1!!%
1221 }

```

```

1222 \def\HyPsd@HighC#1!{%
1223   \IntCalcDiv#1!4!%
1224   \@backslashchar
1225   \IntCalcMod#1!4!%
1226 }
1227 \def\HyPsd@HighD#1!{%
1228   \ifcase\IntCalcDiv#1!8! %
1229     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1230   \fi
1231   \ifcase\IntCalcMod#1!8! %
1232     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1233   \fi
1234 }
1235 \def\HyPsd@DecimalToOctalFirst#1{%
1236   \9%
1237   \ifcase#1 %
1238     000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1239     \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1240     \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1241     \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1242     \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1243     \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1244     \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1245     \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1246     \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1247     \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1248     \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1249     \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1250     \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1251     \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1252     \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1253     \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1254     \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1255     \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1256     \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1257     \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1258     \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1259     \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1260     \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1261     \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1262     \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1263     \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1264     \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1265     \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1266     \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1267     \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1268     \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1269     \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1270   \fi
1271 }
1272 \def\HyPsd@DecimalToOctalSecond#1{%
1273   \ifcase #1 %
1274     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1275     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1276     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1277     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1278     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%

```



```

1279 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1280 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1281 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1282 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1283 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1284 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1285 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1286 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1287 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1288 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1289 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1290 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1291 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1292 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1293 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1294 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1295 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1296 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1297 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1298 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1299 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1300 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1301 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1302 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1303 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1304 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1305 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1306 \fi
1307 }

1308 \def\HyPsd@CJKNnumber#1{%
1309 \ifnum#1<\z@
1310 \CJk@minus
1311 \expandafter\HyPsd@@CJKNnumber\expandafter{\number-\number#1}%
1312 \else
1313 \expandafter\HyPsd@@CJKNnumber\expandafter{\number#1}%
1314 \fi
1315 }

1316 \def\HyPsd@@CJKNnumber#1{%
1317 \ifcase#1 %
1318 \CJk@zero\or\CJk@one\or\CJk@two\or\CJk@three\or\CJk@four\or
1319 \CJk@five\or\CJk@six\or\CJk@seven\or\CJk@eight\or\CJk@nine\or
1320 \CJk@ten\or\CJk@ten\CJk@one\or\CJk@ten\CJk@two\or
1321 \CJk@ten\CJk@three\or\CJk@ten\CJk@four\or\CJk@ten\CJk@five\or
1322 \CJk@ten\CJk@six\or\CJk@ten\CJk@seven\or\CJk@ten\CJk@eight\or
1323 \CJk@ten\CJk@nine
1324 \else
1325 \ifnum#1<10000 %
1326 \HyPsd@CJKNnumberFour#1!\@empty{20}%
1327 \@empty
1328 \else
1329 \ifnum#1<100000000 %
1330 \expandafter\expandafter\expandafter\HyPsd@CJKNnumberFour
1331 \IntCalcDiv#1!10000!%
1332 !\{20}%
1333 \CJk@tenthousand
1334 \expandafter\expandafter\expandafter\HyPsd@CJKNnumberFour
1335 \IntCalcMod#1!10000!%

```

```

1336      !\CJK@zero{10}%
1337      \@empty
1338    \else
1339      \expandafter\HyPsd@CJKnumberLarge
1340      \number\IntCalcDiv#1!100000000!\expandafter!%
1341      \number\IntCalcMod#1!100000000!!%
1342    \fi
1343  \fi
1344 \fi
1345 }
1346 \def\HyPsd@CJKnumberLarge#1!#2!{%
1347   \HyPsd@CJKnumberFour#1!{}{20}%
1348   \CJK@hundredmillion
1349   \ifnum#2=\z@
1350 \else
1351   \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1352     \IntCalcDiv#2!10000!%
1353   !\CJK@zero{10}%
1354   \CJK@tenthousand
1355   \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1356     \IntCalcMod#2!10000!%
1357   !\CJK@zero{10}%
1358   \@empty
1359 \fi
1360 }
1361 \def\HyPsd@CJKnumberFour#1!#2#3{%
1362   \ifnum#1=\z@
1363     \expandafter\@gobble
1364   \else
1365     \ifnum#1<1000 %
1366       #2%
1367       \HyPsd@CJKnumberThree#1!{}{#3}%
1368     \else
1369       \HyPsd@@@CJKnumber{\IntCalcDiv#1!1000!}%
1370       \CJK@thousand
1371       \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1372         \IntCalcMod#1!1000!%
1373       !\CJK@zero{10}%
1374     \fi
1375   \fi
1376 }
1377 \def\HyPsd@CJKnumberThree#1!#2#3{%
1378   \ifnum#1=\z@
1379 \else
1380   \ifnum#1<100 %
1381     #2%
1382     \HyPsd@CJKnumberTwo#1!{}{#3}%
1383   \else
1384     \HyPsd@@@CJKnumber{\IntCalcDiv#1!100!}%
1385     \CJK@hundred
1386     \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1387       \IntCalcMod#1!100!%
1388     !\CJK@zero{10}%
1389   \fi
1390 \fi
1391 }
1392 \def\HyPsd@CJKnumberTwo#1!#2#3{%

```

```

1393 \ifnum#1=\z@
1394 \else
1395 \ifnum#1<#3 %
1396   #2%
1397   \HyPsd@@CJKnumber{#1}%
1398 \else
1399 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1400 \CJK@ten
1401 \ifnum\IntCalcMod#1!10!=\z@
1402 \else
1403 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1404 \fi
1405 \fi
1406 \fi
1407 }

1408 \def\HyPsd@CJKdigits#1{%
1409 \ifx*#1\relax
1410 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1411 \else
1412 \HyPsd@@CJKdigits\CJK@null{#1}%
1413 \fi
1414 }

1415 \def\HyPsd@@CJKdigits#1#2{%
1416 \ifx\#2\%
1417 \else
1418 \HyPsd@@@CJKdigits#1#2\@nil
1419 \fi
1420 }%
1421 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1422 \HyPsd@CJKdigit#1{#2}%
1423 \ifx\#3\%
1424 \expandafter\@gobble
1425 \else
1426 \expandafter\@firstofone
1427 \fi
1428 {%
1429 \HyPsd@@@CJKdigits#1#3\@nil
1430 }%
1431 }

1432 \def\HyPsd@CJKdigit#1#2{%
1433 \ifcase#2 %
1434   #1\or
1435   \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1436   \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1437 \fi
1438 }

```

### 6.5.6 \@inmathwarn-Patch

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

To understand the patch easier, the original code of `\@current@cmd` and `\@changed@cmd` follows ( $\text{\LaTeX} 2_{\epsilon}$  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}

1439 \def\HyPsd@inmathwarn#1#2{%
1440   \ifx#2\expandafter
1441     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1442       \HyPsd@GLYPHERR
1443       \expandafter\@gobble\string#1%
1444       >%
1445       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1446     \else
1447       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1448     \fi
1449   \else
1450     \expandafter#2%
1451   \fi
1452 }
1453 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1454 \def\HyPsd@EndWithElse#1\else\else{}

```

\HyPsd@add@accent

```

1455 \def\HyPsd@add@accent#1#2{%
1456   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1457   #2%
1458 }%

```

### 6.5.7 Unexpandable spaces

`\HyPsd@LetUnexpandableSpace` In `\HyPsd@@ProtectSpaces` the space tokens are replaced by not expandable commands, that work like spaces:

- So they can be caught by undelimited arguments.
- And they work in number, dimension, and skip assignments.

These properties are used in `\HyPsd@CheckCatcodes`.

```
1459 \def\HyPsd@LetUnexpandableSpace#1{%
1460   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1461 }
```

`\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.

```
1462 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace
```

### 6.5.8 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.

```
1463 \edef\HyPsd@XSPACE{\string#\string X}
1464 \edef\HyPsd@ITALCORR{\string#\string I}
1465 \edef\HyPsd@GLYPHERR{\string#\string G}
```

### 6.5.9 `\hspace fix`

`\HyPsd@hspace`

```
1466 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1467 \def\HyPsd@@hspace#1*#2\END{%
1468   \ifx\#2\%
1469     \HyPsd@hspacetest{#1}%
1470   \else
1471     \expandafter\HyPsd@hspacetest
1472   \fi
1473 }
```

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

```
1474 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

### 6.5.10 Fix for AMS classes

```
1475 \ltx@ifundefined{tocsection}{%
1476   \let\HyPsd@AMSClassfix\relax
1477 }{%
1478   \def\HyPsd@AMSClassfix{%
1479     \let\tocpart\HyPsd@tocsection
1480     \let\tocchapter\HyPsd@tocsection
1481     \let\tocappendix\HyPsd@tocsection
```

```

1482 \let\tocsection\HyPsd@tocsection
1483 \let\tocsubsection\HyPsd@tocsection
1484 \let\tocsubsubsection\HyPsd@tocsection
1485 \let\tocparagraph\HyPsd@tocsection
1486 }%
1487 \def\HyPsd@tocsection#1#2#3{%
1488 \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1489 #3%
1490 }%
1491 }

```

### 6.5.11 Reference commands

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

```

1492 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%

```

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

```

1493 \def\HyPsd@@ref#1*#2\END{%
1494 \ifx\#2\%
1495 \HyPsd@@@ref{#1}%
1496 \else
1497 \expandafter\HyPsd@@@ref
1498 \fi
1499 }%

```

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

```

1500 \def\HyPsd@@@ref#1{%
1501 \expandafter\ifx\csname r@#1\endcsname\relax
1502 ??%
1503 \else
1504 \expandafter\expandafter\expandafter
1505 \@car\csname r@#1\endcsname\@nil
1506 \fi
1507 }

```

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

```

1508 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1509 \def\HyPsd@@pageref#1*#2\END{%
1510 \ifx\#2\%
1511 \HyPsd@@@pageref{#1}%
1512 \else
1513 \expandafter\HyPsd@@@pageref
1514 \fi
1515 }

```

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

```

1516 \def\HyPsd@@@pageref#1{%
1517 \expandafter\ifx\csname r@#1\endcsname\relax
1518 ??%
1519 \else
1520 \expandafter\expandafter\expandafter\expandafter
1521 \expandafter\expandafter\expandafter\@car
1522 \expandafter\expandafter\expandafter\@gobble

```

```

1523 \csname r@#1\endcsname{}\@nil
1524 \fi
1525 }

```

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

```

1526 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1527 \def\HyPsd@@nameref#1*#2\END{%
1528 \ifx\#2\%
1529 \HyPsd@@@nameref{#1}%
1530 \else
1531 \expandafter\HyPsd@@@nameref
1532 \fi
1533 }

```

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

```

1534 \def\HyPsd@@@nameref#1{%
1535 \expandafter\ifx\csname r@#1\endcsname\relax
1536 ??%
1537 \else
1538 \expandafter\expandafter\expandafter\expandafter
1539 \expandafter\expandafter\expandafter\@car
1540 \expandafter\expandafter\expandafter\@gobbletwo
1541 \csname r@#1\endcsname{}\}\@nil
1542 \fi
1543 }

```

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

```

1544 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1545 \def\HyPsd@@autoref#1*#2\END{%
1546 \ifx\#2\%
1547 \HyPsd@@@autoref{#1}%
1548 \else
1549 \expandafter\HyPsd@@@autoref
1550 \fi
1551 }

```

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

```

1552 \def\HyPsd@@@autoref#1{%
1553 \expandafter\ifx\csname r@#1\endcsname\relax
1554 ??%
1555 \else
1556 \expandafter\expandafter\expandafter\HyPsd@autorefname
1557 \csname r@#1\endcsname{}\}\}\@nil
1558 \expandafter\expandafter\expandafter
1559 \@car\csname r@#1\endcsname\@nil
1560 \fi
1561 }

```

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

```

1562 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%

```

```

1563 \ifx\#4\%
1564 \else
1565 \HyPsd@@autorefname#4.\@nil
1566 \fi
1567 }

```

\HyPsd@@autorefname

```

1568 \def\HyPsd@@autorefname#1.#2\@nil{%
1569 \ltx@ifundefined{#1autorefname}{%
1570 \ltx@ifundefined{#1name}{%
1571 }{%
1572 \csname#1name\endcsname\space
1573 }%
1574 }{%
1575 \csname#1autorefname\endcsname\space
1576 }%
1577 }

```

### 6.5.12 Redefining the defining commands

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

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

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

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

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

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

\HyPsd@DefCommand

\HyPsd@LetCommand

```

1578 \begingroup
1579 \def\x#1#2{%
1580 \endgroup
1581 \let#1\def
1582 \def\HyPsd@DefCommand##1##2##3{%
1583 #1%
1584 \expandafter\noexpand

```



```

1585     \csname\expandafter\@gobble\string##1\@empty\endcsname
1586     \@gobble
1587 }%
1588 \let#2\let
1589 \def\HyPsd@@LetCommand##1{%
1590   \expandafter\ifx\csname##1\expandafter\endcsname
1591     \csname iftrue\endcsname
1592     \pdfstringdefWarn\let
1593     \expandafter\@gobble
1594   \else
1595     \expandafter\ifx\csname##1\expandafter\endcsname
1596       \csname iffalse\endcsname
1597       \pdfstringdefWarn\let
1598       \expandafter\expandafter\expandafter\@gobble
1599     \else
1600       #2%
1601       \expandafter\noexpand
1602       \csname##1\expandafter\expandafter\expandafter\endcsname
1603     \fi
1604   \fi
1605 }%
1606 }%
1607 \expandafter\x\csname <def>-command\expandafter\endcsname
1608     \csname <let>-command\endcsname
1609 \def\HyPsd@LetCommand#1{%
1610   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1611   \expandafter\expandafter\expandafter{%
1612     \expandafter\@gobble\string#1\@empty
1613   }%
1614 }

```

### 6.5.13 \ifnextchar

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

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

```

1615 \def\HyPsd@ifnextchar#1{%
1616   \pdfstringdefWarn#1%
1617   \expandafter\@gobbletwo\@gobble
1618 }

```

### 6.5.14 \@protected@testoptifnextchar

`\HyPsd@protected@testopt` Macros with optional arguments doesn't work properly, because they call `\ifnextchar` to detect the optional argument (see the explanation of `\HyPsd@ifnextchar`). But a warning, that `\ifnextchar` doesn't work, doesn't help the user very much. Therefore `\@protected@testopt` is also disabled, because its first argument is the problematic macro with the optional argument and it is called before `\ifnextchar`.

```

1619 \def\HyPsd@protected@testopt#1{%

```

```

1620 \pdfstringdefWarn#1%
1621 \@gobbletwo
1622 }

```

## 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:

```

1623 \def\HyPsd@Warning#1{%
1624   \begingroup
1625   \def\space{ }%
1626   \Hy@Warning{#1}%
1627 \endgroup
1628 }

```

### 6.6.2 Protecting spaces

```

1629 \RequirePackage{etexcmds}[2007/09/09]
1630 \ifetex@unexpanded
1631   \expandafter\@secondoftwo
1632 \else
1633   \expandafter\@firstoftwo
1634 \fi
1635 {%

```

`\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`.

```

1636 \def\HyPsd@ProtectSpaces#1{%
1637   \iftrue
1638     \expandafter\HyPsd@@ProtectSpacesFi
1639     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1640   \fi
1641 }%

```

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

```

1642 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1643   \fi
1644   \ifx\scrollmode#2\scrollmode
1645     \HyPsd@RemoveMask#1\HyPsd@End#3%
1646   \else
1647     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1648     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1649   \fi
1650 }%

```

### 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.

```

1651 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1652   \toks@\expandafter{#1}%
1653   \xdef#2{\the\toks@}%
1654 }%

```

```

1655 }{%
1656   \let\HyPsd@fi\fi
1657   \def\HyPsd@ProtectSpaces#1{%
1658     \xdef#1{%
1659       \iftrue
1660         \expandafter\HyPsd@@ProtectSpacesFi
1661         \expandafter|\expandafter\@empty#1| %
1662       \HyPsd@fi
1663     }%
1664     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1665   }%
1666   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1667     \fi
1668     \etex@unexpanded{#1}%
1669     \ifx\scrollmode#2\scrollmode
1670     \else
1671       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1672     \HyPsd@fi
1673   }%
1674   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1675     \xdef#2{\etex@unexpanded\expandafter{#1}}%
1676   }%
1677 }

```

### 6.6.3 Remove grouping braces

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

```

1678 \def\HyPsd@RemoveBraces#1{%
1679   \ifx\scrollmode#1\scrollmode
1680   \else
1681     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1682   \fi
1683 }

```

`\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`.

```

1684 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1685   \fi
1686   \def\Hy@temp@A{#1#2}%
1687   \def\Hy@temp@B{#3}%
1688   \ifx\Hy@temp@A\Hy@temp@B
1689     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1690       \HyPsd@String#1%
1691     }%
1692     \ifx\scrollmode#2\scrollmode
1693     \else
1694       \Hy@ReturnAfterFiFiEnd{%
1695         \HyPsd@RemoveBraces{#2}%
1696       }%

```

```

1697 \fi
1698 \else
1699 \def\Hy@temp@A{#1}%
1700 \HyPsd@AppendItalcrr\HyPsd@String
1701 \ifx\Hy@temp@A\@empty
1702 \Hy@ReturnAfterElseFiFiEnd{%
1703 \HyPsd@RemoveBraces{#2}%
1704 }%
1705 \else
1706 \HyPsd@ProtectSpaces\Hy@temp@A
1707 \HyPsd@AppendItalcrr\Hy@temp@A
1708 \Hy@ReturnAfterFiFiEnd{%
1709 \expandafter\HyPsd@RemoveBraces\expandafter
1710 {\Hy@temp@A#2}%
1711 }%
1712 \fi
1713 \fi
1714 \Hy@ReturnEnd
1715 }

```

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

```

1716 \def\HyPsd@AppendItalcrr#1{%
1717 \expandafter\HyPsd@@AppendItalcrr\expandafter{\/#1}%
1718 }
1719 \def\HyPsd@@AppendItalcrr#1#2{%
1720 \expandafter\def\expandafter#2\expandafter{#2#1}%
1721 }

```

#### 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).

```

1722 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1723 \global\let\HyPsd@Rest\relax
1724 \ifcat\relax\noexpand#1\relax
1725 \ifx#1\protect
1726 \else
1727 \ifx#1\penalty
1728 \setbox\z@=\hbox{%
1729 \afterassignment\HyPsd@AfterCountRemove
1730 \count@=#2\HyPsd@End
1731 }%
1732 \else
1733 \ifx#1\kern
1734 \setbox\z@=\hbox{%
1735 \afterassignment\HyPsd@AfterDimenRemove

```

```

1736         \dimen@=#2\HyPsd@End
1737     }%
1738 \else
1739     \ifx#1\hskip
1740         \setbox\z@=\hbox{%
1741             \afterassignment\HyPsd@AfterSkipRemove
1742             \skip@=#2\HyPsd@End
1743         }%
1744     \else
1745         \HyPsd@CatcodeWarning{#1}%
1746     \fi
1747 \fi
1748 \fi
1749 \fi
1750 \else
1751     \ifcat#1A% letter
1752         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1753             \HyPsd@String#1%
1754         }%
1755     \else
1756         \ifcat#1 % SPACE
1757             \expandafter\def\expandafter\HyPsd@String\expandafter{%
1758                 \HyPsd@String\HyPsd@SPACEOPTI
1759             }%
1760         \else
1761             \ifcat$#1%
1762                 \HyPsd@CatcodeWarning{math shift}%
1763             \else
1764                 \ifcat&#1%
1765                     \HyPsd@CatcodeWarning{alignment tab}%
1766                 \else
1767                     \ifcat^#1%
1768                         \HyPsd@CatcodeWarning{superscript}%
1769                     \else
1770                         \ifcat_#1%
1771                             \HyPsd@CatcodeWarning{subscript}%
1772                         \else
1773                             \expandafter\def\expandafter\HyPsd@String\expandafter{%
1774                                 \HyPsd@String#1%
1775                             }%
1776                         \fi
1777                     \fi
1778                 \fi
1779             \fi
1780         \fi
1781     \fi
1782 \fi
1783 \ifx\HyPsd@Rest\relax
1784     \ifx\scrollmode#2\scrollmode
1785     \else
1786         \Hy@ReturnAfterFiFiEnd{%
1787             \HyPsd@CheckCatcodes#2\HyPsd@End
1788         }%
1789     \fi
1790 \else
1791     \ifx\HyPsd@Rest\@empty
1792     \else

```

```

1793 \Hy@ReturnAfterFiFiEnd{%
1794 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1795 }%
1796 \fi
1797 \fi
1798 \Hy@ReturnEnd
1799 }

```

### Remove counts, dimens, skips.

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

```

1800 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1801 \gdef\HyPsd@Rest{#1}%
1802 }

```

`\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.

```

1803 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1804 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@\fi>1ex %
1805 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1806 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1807 \else
1808 \ifdim\dimen@=\z@
1809 \else
1810 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1811 \fi
1812 \gdef\HyPsd@Rest{#1}%
1813 \fi
1814 }

```

`\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).

```

1815 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1816 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@\fi>1ex %
1817 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1818 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1819 \else
1820 \ifdim\skip@=\z@
1821 \else
1822 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1823 \fi
1824 \gdef\HyPsd@Rest{#1}%
1825 \fi
1826 }

```

### Catcode warnings.

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

```

1827 \def\HyPsd@CatcodeWarning#1{%
1828 \HyPsd@Warning{%
1829 Token not allowed in a PDF string (%
1830 \ifHy@unicode
1831 Unicode%
1832 \else

```

```

1833     PDFDocEncoding%
1834     \fi
1835   ):%
1836   \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1837 }%
1838 }
1839 \begingroup
1840 \catcode'\|=0 %
1841 \catcode'\|=12 %
1842 |gdef|HyPsd@RemoveCmdPrefix#1{%
1843   |expandafter|HyPsd@@RemoveCmdPrefix
1844   |string#1|@empty\<>-|@empty|@empty
1845 }%
1846 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1847 |endgroup

```

\HyPsd@RemoveSpaceWarning

```

1848 \def\HyPsd@RemoveSpaceWarning#1{%
1849   \HyPsd@Warning{%
1850     Token not allowed in a PDF string (%)
1851     \ifHy@unicode
1852       Unicode%
1853     \else
1854       PDFDocEncoding%
1855     \fi
1856   ):%
1857   \MessageBreak #1\MessageBreak
1858   removed%
1859 }%
1860 }

```

\HyPsd@ReplaceSpaceWarning

```

1861 \def\HyPsd@ReplaceSpaceWarning#1{%
1862   \HyPsd@Warning{%
1863     Token not allowed in a PDF string (%)
1864     \ifHy@unicode
1865       Unicode%
1866     \else
1867       PDFDocEncoding%
1868     \fi
1869   ):%
1870   \MessageBreak #1\MessageBreak
1871   replaced by space%
1872 }%
1873 }

```

### 6.6.5 Check for wrong glyphs

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

```

1874 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1875   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1876     \HyPsd@String#1%
1877   }%
1878   \ifx\\#2\\%
1879   \else
1880     \Hy@ReturnAfterFi{%

```

```

1881 \HyPsd@GlyphProcessWarning#2\@empty
1882 }%
1883 \fi
1884 }
1885 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1886 \HyPsd@@GlyphProcessWarning#1++>%
1887 \HyPsd@GlyphProcess#2\@empty
1888 }
1889 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1890 \ifx\#2\%
1891 \HyPsd@Warning{%
1892 Glyph not defined in %
1893 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1894 removing \@backslashchar#1'%
1895 }%
1896 \else
1897 \HyPsd@Warning{%
1898 Composite letter \@backslashchar#1+#2'\MessageBreak
1899 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1900 \MessageBreak
1901 removing \@backslashchar#1'%
1902 }%
1903 \fi
1904 }

```

### 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.

```

1905 \def\HyPsd@spaceopti#1{ % first space
1906 \ifx\HyPsd@spaceopti#1%
1907 \040%
1908 \else
1909 #1%
1910 \fi
1911 }%

```

### 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.

1912 \def\HyPsd@Subst#1#2#3{%
1913 \def\HyPsd@@ReplaceFi##1##2\END\fi{%
1914 \fi
1915 ##1%
1916 \ifx\scrollmode##2\scrollmode
1917 \else
1918 #2%
1919 \HyPsd@@ReplaceFi##2\END
1920 \fi
1921 }%

```



```

1922 \xdef#3{%
1923   \iftrue
1924     \expandafter\HyPsd@@ReplaceFi#3#1\END
1925   \fi
1926 }%
1927 }

```

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

```

1928 \def\HyPsd@StringSubst#1{%
1929   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1930 }

```

### 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.

```

1931 \def\HyPsd@doxspace#1{%
1932   \ifx#1\relax\else
1933     \ifx#1.\else
1934       \ifx#1:\else
1935         \ifx#1,\else
1936           \ifx#1;\else
1937             \ifx#1!\else
1938               \ifx#1?\else
1939                 \ifx#1/\else
1940                   \ifx#1-\else
1941                     \ifx#1'\else
1942                       \HyPsd@SPACEOPTI
1943                     \fi
1944                   \fi
1945                 \fi
1946               \fi
1947             \fi
1948           \fi
1949         \fi
1950       \fi
1951     \fi
1952   \fi
1953   #1%
1954 }%

```

### 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.

```

1955 \begingroup
1956   \catcode'\|=0 %
1957   \catcode'\|=12 %

```

`\HyPsd@ConvertToUnicode`

```

1958 |gdef\HyPsd@ConvertToUnicode#1{%
1959   |xdef#1{%
1960     |expandafter\HyPsd@DoConvert#1|@empty|@empty|@empty

```

```

1961 }%
1962 |ifx#1|@empty
1963 |else
1964 |xdef#1{%
1965     \376\377%
1966     #1%
1967 }%
1968 |fi
1969 }%

```

#### \HyPsd@DoConvert

```

1970 |gdef|HyPsd@DoConvert#1{%
1971 |ifx#1|@empty
1972 |else
1973 |Hy@ReturnAfterFi{%
1974 |ifx#1\%%
1975 \%%
1976 |expandafter|HyPsd@DoEscape
1977 |else
1978 |HyPsd@Char{#1}%
1979 |expandafter|HyPsd@DoConvert
1980 |fi
1981 }%
1982 |fi
1983 }%

```

#### \HyPsd@DoEscape

```

1984 |gdef|HyPsd@DoEscape#1{%
1985 |ifx#19%
1986 |expandafter|HyPsd@GetTwoBytes
1987 |else
1988 |Hy@ReturnAfterFi{%
1989 |ifx#18%
1990 00%
1991 |expandafter|HyPsd@GetTwoBytes
1992 |else
1993 #1%
1994 |expandafter|HyPsd@GetOneByte
1995 |fi
1996 }%
1997 |fi
1998 }%

```

#### \HyPsd@GetTwoBytes

```

1999 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2000 #1\#2#3#4%
2001 |HyPsd@DoConvert
2002 }%

```

#### \HyPsd@GetOneByte

```

2003 |gdef|HyPsd@GetOneByte#1#2{%
2004 #1#2%
2005 |HyPsd@DoConvert
2006 }%
2007 |endgroup

```

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

```

2008 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2009   \xdef#4{#4#1#2}%
2010   \HyPsd@@ConvertToUnicode#3\END#4%
2011 }

```

\HyPsd@Char

```

2012 \begingroup
2013   \catcode0=9 %
2014   \catcode'\^=7 %
2015   \catcode'\^^=12 %
2016   \def\x{^^^0000}%
2017 \expandafter\endgroup
2018 \ifx\x\@empty
2019   \def\HyPsd@Char#1{%
2020     \ifnum'#1<128 %
2021       \@backslashchar 000#1%
2022     \else
2023       \ifnum'#1<65536 %
2024         \expandafter\HyPsd@CharTwoByte\number'#1!%
2025       \else
2026         \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2027         \intcalcSub{'#1}{65536}!%
2028       \fi
2029     \fi
2030   }%
2031 \def\HyPsd@CharTwoByte#1!{%
2032   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2033   \IntCalcDiv#1!256!!%
2034   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2035   \IntCalcMod#1!256!!%
2036 }%
2037 \def\HyPsd@CharOctByte#1!{%
2038   \@backslashchar
2039   \IntCalcDiv#1!64!%
2040   \intcalcDiv{\IntCalcMod#1!64!}{8}%
2041   \IntCalcMod#1!8!%
2042 }%
2043 \def\HyPsd@CharSurrogate#1!{%
2044   \@backslashchar 33%
2045   \IntCalcDiv#1!262144!%
2046   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2047   \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2048   \@backslashchar 33%
2049   \expandafter\expandafter\expandafter\IntCalcAdd
2050   \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2051   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2052   \IntCalcMod#1!256!!%
2053 }%
2054 \else
2055   \def\HyPsd@Char#1{%
2056     \@backslashchar 000#1%
2057   }%
2058 \fi

```

### 6.6.9 Support for UTF-8 input encoding

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

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

```

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

2059 \begingroup\expandafter\expandafter\expandafter\endgroup
2060 \expandafter\ifx\csname numexpr\endcsname\relax
2061   \let\HyPsd@UTFviii\relax
2062 \else
2063   \begingroup
2064     \lccode'\~='^f4\relax
2065   \lowercase{\endgroup
2066     \def\HyPsd@UTFviii{%
2067       \let\UTFviii@two@octets\HyPsd@UTFviii@two
2068       \let\UTFviii@three@octets\HyPsd@UTFviii@three
2069       \let\UTFviii@four@octets\HyPsd@UTFviii@four
2070       \ifx~\HyPsd@UTFviii@ccxliv@undef
2071         \let~\HyPsd@UTFviii@ccxliv@def
2072       \fi
2073       \let\unichar\HyPsd@unichar
2074     }%
2075   }%
2076   \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2077   \edef\HyPsd@UTFviii@ccxliv@def{%
2078     \noexpand\UTFviii@four@octets\string ^f4%
2079   }%
```

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.

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

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

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

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

$$(5)$$

```

2080 \def\HyPsd@UTFviii@two#1#2{%
2081   \expandafter\HyPsd@UTFviii@@two
2082   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2083   \number'#1\expandafter| %
2084   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2085   \number'#2 \@nil
2086 }%
2087 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2088   \expandafter\8%
2089   \number\numexpr #1-48\expandafter\relax
2090   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2091   \number\numexpr #3-8*%
```

```

2092 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2093 \number\dimexpr #4-8*#3\relax
2094 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2095 \def\HyPsd@UTFviii@three#1#2#3{%
2096 \expandafter\HyPsd@UTFviii@three
2097 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2098 \number'#1\expandafter| %
2099 \number\ifnum\dimexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2100 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2101 \number'#2\expandafter| %
2102 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2103 \number'#3 \@nil
2104 }%
2105 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2106 \expandafter\9%
2107 \number\dimexpr #1-56\expandafter\relax
2108 \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
2109 \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2110 \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
2111 \number\dimexpr #6-16\expandafter\relax
2112 \number\dimexpr #7-8*#6\relax
2113 }%

```

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 wwzzzyy 110111yy yyxxxxxx
octal: 011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx

```

```

2114 \def\HyPsd@UTFviii@four#1#2{%
2115 \expandafter\HyPsd@UTFviii@four\number
2116 \dimexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2117 \expandafter|\number
2118 \dimexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2119 }%
2120 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2121 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2122 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2123 \ifodd#2 %
2124 \number\dimexpr(#2-1)/2\relax
2125 \else
2126 \number\dimexpr#2/2\relax
2127 \fi

```

```

2128 \number\numexpr\ifodd#2 4+\fi
2129 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2130 \933%
2131 \expandafter\HyPsd@@@UTFviii@four\number
2132 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2133 }%
2134 \def\HyPsd@@@UTFviii@four#1|#2{%
2135 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2136 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2137 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2138 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2139 }%

```

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

```

2140 \def\HyPsd@unichar#1{%
2141 \ifHy@unicode
2142 \ifnum#1>"10FFFF %
2143 \HyPsd@UnicodeReplacementCharacter % illegal
2144 \else
2145 \ifnum#1>"FFFF %

```

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

```

2146 \expandafter\HyPsd@unichar\expandafter{%
2147 \number\numexpr 55296+%
2148 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2149 \relax\relax\relax
2150 }%

```

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

```

2151 \expandafter\HyPsd@unichar\expandafter{%
2152 \number\numexpr#1-9216%
2153 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2154 \relax\relax\relax
2155 }%
2156 \else
2157 \ifnum#1>"7FF %
2158 \9%
2159 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2160 \number
2161 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2162 }%
2163 \else
2164 \8%
2165 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2166 \fi
2167 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2168 \number
2169 \numexpr#1-256*\number
2170 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2171 }%
2172 \fi
2173 \fi
2174 \else
2175 .% unsupported (Unicode -> PDF Doc Encoding)
2176 \fi
2177 }%
2178 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%

```

```

2179 \def\HyPsd@unichar@first@byte#1{%
2180 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2181 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2182 \number
2183 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2184 \relax\relax\relax
2185 }%
2186 }%
2187 \def\HyPsd@unichar@second@byte#1{%
2188 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2189 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2190 \number
2191 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2192 \relax\relax\relax
2193 }%
2194 }%
2195 \def\HyPsd@unichar@octtwo#1{%
2196 \number\dimexpr.125\dimexpr#1sp\relax\relax
2197 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2198 \relax\relax\relax
2199 }%
2200 \fi

```

## 7 Support of other packages

### 7.1 Class memoir

```

2201 \@ifclassloaded{memoir}{%
2202 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}}%
2203 }{}

```

### 7.2 Package subfigure

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

```

2204 \@ifpackageloaded{subfigure}{%
2205 \ltx@ifundefined{sub@label}{%
2206 \Hy@hypertexnamesfalse
2207 }{%
2208 \renewcommand*{\sub@label}[1]{%
2209 \bsphack
2210 \subfig@oldlabel{#1}%
2211 \if@filesw
2212 \begingroup
2213 \edef\@currentlabstr{%
2214 \expandafter\strip@prefix\meaning\@currentlabelname
2215 }%
2216 \protected@write\@auxout{}{%
2217 \string\newlabel{sub@#1}{%
2218 {\@nameuse{\@thesub\@cptype}}%
2219 {\thepage}%
2220 }%
2221 \expandafter\strip@period\@currentlabstr
2222 \relax.\relax\@@@%
2223 }%
2224 {\@currentHref}%
2225 }%
2226 }%

```

```

2227     }%
2228     \endgroup
2229     \fi
2230     \@esphack
2231 }%
2232 \@ifpackagelater{subfigure}{2002/03/26}{%
2233     \providecommand*{\toclevel@subfigure}{1}%
2234     \providecommand*{\toclevel@subtable}{1}%
2235 }%
2236 }%
2237 }{}

```

### 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:

```

2238 \ltx@ifundefined{XR@addURL}{%
2239 }{%

```

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.

```

2240 \def\xr@addURL#1{\xr@dURL#1{}{}{}\\}%
2241 \def\xr@dURL#1#2#3#4#5\\{%
2242   {#1}{#2}%
2243   \if!#4!%
2244   \else
2245     {#3}{#4}{\xr@URL}%
2246   \fi
2247 }%
2248 }

2249 \def\Hy@true{true}
2250 \def\Hy@false{false}

```

Providing dummy definitions.

```

2251 \let\literalps@out\@gobble
2252 \newcommand\pdfbookmark[3]{}{}
2253 \def\Acrobatmenu#1#2{\leavevmode#2}
2254 \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

```

2255 \let\HyperRaiseLinkHook\@empty
2256 \def\HyperRaiseLinkDefault{\baselineskip}

```



\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

```

2257 \def\Hy@raisedlink#1{%
2258   \ifvmode
2259     #1%
2260   \else
2261     \penalty\@M
2262     \smash{%
2263       \begingroup
2264         \let\HyperRaiseLinkLength\@tempdima
2265         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2266         \HyperRaiseLinkHook
2267       \expandafter\endgroup
2268     \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
2269   }%
2270 \fi
2271 }

```

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

```

2272 \def\Hy@SaveLastskip{%
2273   \let\Hy@RestoreLastskip\relax
2274   \ifvmode
2275     \ifdim\lastskip=\z@
2276       \let\Hy@RestoreLastskip\nobreak
2277     \else
2278       \begingroup
2279       \skip@=-\lastskip
2280       \edef\x{%
2281         \endgroup
2282         \def\noexpand\Hy@RestoreLastskip{%
2283           \noexpand\ifvmode
2284             \noexpand\nobreak
2285             \vskip\the\skip@
2286             \vskip\the\lastskip\relax
2287           \noexpand\fi
2288         }%
2289       }%
2290       \x
2291     \fi
2292   \else
2293     \ifhmode
2294       \ifdim\lastskip=\z@
2295         \let\Hy@RestoreLastskip\nobreak
2296       \else
2297         \begingroup
2298         \skip@=-\lastskip
2299         \edef\x{%
2300           \endgroup
2301           \def\noexpand\Hy@RestoreLastskip{%
2302             \noexpand\ifhmode
2303               \noexpand\nobreak
2304               \hskip\the\skip@
2305               \hskip\the\lastskip\relax
2306             \noexpand\fi
2307           }%
2308         }%
2309         \x
2310       \fi

```

```

2311 \fi
2312 \fi
2313 }%

```

## 9 Options

### 9.1 Help macros

`\Hy@boolkey`

```

2314 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
2315 \def\Hy@@boolkey[#1]#2#3{%
2316 \edef\Hy@tempa{#3}%
2317 \lowercase\expandafter{%
2318 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2319 }%
2320 \ifx\Hy@tempa\@empty
2321 \let\Hy@tempa\Hy@true
2322 \fi
2323 \ifx\Hy@tempa\Hy@true
2324 \else
2325 \ifx\Hy@tempa\Hy@false
2326 \else
2327 \let\Hy@tempa\relax
2328 \fi
2329 \fi
2330 \ifx\Hy@tempa\relax
2331 \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
2332 \else
2333 \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2334 \csname Hy@#2\Hy@tempa\endcsname
2335 \fi
2336 }

```

`\Hy@WarnOptionValue`

```

2337 \def\Hy@WarnOptionValue#1#2#3{%
2338 \Hy@Warning{%
2339 Unexpected value ‘#1’\MessageBreak
2340 of option ‘#2’ instead of\MessageBreak
2341 #3%
2342 }%
2343 }

```

`\Hy@DisableOption`

```

2344 \def\Hy@DisableOption#1{%
2345 \@ifundefined{KV@Hyp@#1@default}{%
2346 \define@key{Hyp}{#1}%
2347 }{%
2348 \define@key{Hyp}{#1}[]%
2349 }%
2350 {\Hy@WarnOptionDisabled{#1}}%
2351 }

```

`\Hy@WarnOptionDisabled`

```

2352 \def\Hy@WarnOptionDisabled#1{%
2353 \Hy@Warning{%

```

```

2354 Option '#1' has already been used,\MessageBreak
2355 setting the option has no effect%
2356 }%
2357 }

```

`\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`.

```

2358 \def\Hy@CheckOptionValue#1#2#3{%
2359   \begingroup
2360   \edef\x{#1}%
2361   \@onelevel@sanitize\x
2362   \let\y=y%
2363   \def\do##1#2{%
2364     \def\z{##1}%
2365     \@onelevel@sanitize\z
2366     \ifx\x\z
2367       \let\y=n%
2368       \let\do\@gobbletwo
2369     \fi
2370   }%
2371   #3%
2372   \ifx\y y%
2373     \def\do##1#2{%
2374       *'##1'%
2375       \ifx\##2\\\else\space(##2)\fi
2376     \MessageBreak
2377   }%
2378   \Hy@Warning{%
2379     Values of option '#2':\MessageBreak
2380     #3%
2381     * An empty value disables the option.\MessageBreak
2382     Unknown value '\x'%
2383   }%
2384   \fi
2385 \endgroup
2386 }

```

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

```

2387 \def\Hy@DefNameKey#1{%
2388   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2389 }

```

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

```

2390 \def\Hy@@DefNameKey#1#2#3{%
2391   \define@key{Hyp}{#2}{%
2392     \edef#1{##1}%
2393     \ifx#1\@empty
2394     \else
2395       \Hy@CheckOptionValue{##1}{#2}{#3}%
2396     \fi
2397   }%
2398   \let#1\@empty
2399 }

```

\Hy@UseNameKey

```
2400 \def\Hy@UseNameKey#1#2{%
2401   \ifx#2\@empty
2402   \else
2403     /#1/#2%
2404   \fi
2405 }
```

## 9.2 Defining the options

```
2406 \define@key{Hyp}{implicit}[true]{%
2407   \Hy@boolkey{implicit}{#1}%
2408 }
2409 \define@key{Hyp}{draft}[true]{%
2410   \Hy@boolkey{draft}{#1}%
2411 }
2412 \define@key{Hyp}{final}[true]{%
2413   \Hy@boolkey{final}{#1}%
2414 }
2415 \let\KV@Hyp@nolinks\KV@Hyp@draft

2416 \def\Hy@ObsoletePaperOption#1{%
2417   \Hy@WarningNoLine{%
2418     Option ‘#1’ is no longer used%
2419   }%
2420   \define@key{Hyp}{#1}[true]{}%
2421 }
2422 \def\Hy@temp#1{%
2423   \define@key{Hyp}{#1}[true]{%
2424     \Hy@ObsoletePaperOption{#1}%
2425   }%
2426 }
2427 \Hy@temp{a4paper}
2428 \Hy@temp{a5paper}
2429 \Hy@temp{b5paper}
2430 \Hy@temp{letterpaper}
2431 \Hy@temp{legalpaper}
2432 \Hy@temp{executivepaper}

2433 \define@key{Hyp}{setpagesize}[true]{%
2434   \Hy@boolkey{setpagesize}{#1}%
2435 }
2436 \define@key{Hyp}{debug}[true]{%
2437   \Hy@boolkey[debug]{verbose}{#1}%
2438 }
2439 \define@key{Hyp}{linktocpage}[true]{%
2440   \Hy@boolkey{linktocpage}{#1}%
2441   \ifHy@linktocpage
2442     \let\Hy@linktoc\Hy@linktoc@page
2443   \else
2444     \let\Hy@linktoc\Hy@linktoc@section
2445   \fi
2446 }
2447 \chardef\Hy@linktoc@none=0 %
2448 \chardef\Hy@linktoc@section=1 %
2449 \chardef\Hy@linktoc@page=2 %
2450 \chardef\Hy@linktoc@all=3 %
2451 \ifHy@linktocpage
```

```

2452 \let\Hy@linktoc\Hy@linktoc@page
2453 \else
2454 \let\Hy@linktoc\Hy@linktoc@section
2455 \fi
2456 \define@key{Hyp}{linktoc}{%
2457 \@ifundefined{Hy@linktoc@#1}{%
2458 \Hy@Warning{%
2459 Unexpected value ‘#1’ of\MessageBreak
2460 option ‘linktoc’ instead of ‘none’,\MessageBreak
2461 ‘section’, ‘page’ or ‘all’%
2462 }%
2463 }{%
2464 \expandafter\let\expandafter\Hy@linktoc
2465 \csname Hy@linktoc@#1\endcsname
2466 }%
2467 }
2468 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2469 \let\XR@ext\relax
2470 \define@key{Hyp}{verbose}[true]{%
2471 \Hy@boolkey{verbose}{#1}%
2472 }
2473 \define@key{Hyp}{typexml}[true]{%
2474 \Hy@boolkey{typexml}{#1}%
2475 }

```

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.

```

2476 \define@key{Hyp}{raiselinks}[true]{%
2477 \Hy@boolkey{raiselinks}{#1}%
2478 }

```

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

```

2479 \def\Hy@setbreaklinks#1{%
2480 \csname breaklinks#1\endcsname
2481 }
2482 \def\Hy@breaklinks@unsupported{%
2483 \ifx\Hy@setbreaklinks\@gobble
2484 \ifHy@breaklinks
2485 \Hy@WarningNoLine{%
2486 You have enabled option ‘breaklinks’.\MessageBreak
2487 But driver ‘\Hy@driver.def’ does not support this.\MessageBreak
2488 Expect trouble with the link areas of broken links%
2489 }%
2490 \fi
2491 \fi
2492 }
2493 \define@key{Hyp}{breaklinks}[true]{%
2494 \Hy@boolkey{breaklinks}{#1}%
2495 \let\Hy@setbreaklinks\@gobble
2496 }
2497 \define@key{Hyp}{localanchorname}[true]{%
2498 \Hy@boolkey{localanchorname}{#1}%
2499 }

```

Determines whether an automatic anchor is put on each page

```

2500 \define@key{Hyp}{pageanchor}[true]{%

```

```

2501 \Hy@boolkey{pageanchor}{#1}%
2502 }

```

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.

```

2503 \define@key{Hyp}{plainpages}[true]{%
2504   \Hy@boolkey{plainpages}{#1}%
2505 }

```

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

```

2506 \define@key{Hyp}{naturalnames}[true]{%
2507   \Hy@boolkey{naturalnames}{#1}%
2508 }

```

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

```

2509 \define@key{Hyp}{hypertexnames}[true]{%
2510   \Hy@boolkey{hypertexnames}{#1}%
2511 }

```

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

```

2512 \define@key{Hyp}{nesting}[true]{%
2513   \Hy@boolkey{nesting}{#1}%
2514 }

```

```

2515 \define@key{Hyp}{unicode}[true]{%
2516   \Hy@boolkey{unicode}{#1}%
2517   \ifHy@unicode
2518     \def\HyPsd@pdfencoding{unicode}%
2519     \HyPsd@LoadUnicode
2520   \else
2521     \def\HyPsd@pdfencoding{pdfdoc}%
2522   \fi
2523 }
2524 \def\HyPsd@LoadUnicode{%
2525   \@ifundefined{T@PU}{%
2526     \input{puenc.def}%
2527     \HyLinguex@Restore
2528   }{}%
2529   \DeclareFontFamily{PU}{pdf}{}%
2530   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2531   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2532   \global\let\HyPsd@LoadUnicode\relax
2533 }
2534 \Hy@AtBeginDocument{%
2535   \ifx\HyPsd@LoadUnicode\relax
2536   \else
2537     \def\HyPsd@LoadUnicode{%
2538       \PackageError{hyperref}{%
2539         Unicode support for bookmarks is not available.\MessageBreak
2540         Activate unicode support by using one of the options\MessageBreak
2541         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2542         in the preamble%
2543       }\@ehc
2544       \global\let\HyPsd@LoadUnicode\relax
2545       \global\Hy@unicodetrue
2546       \global\let\Hy@unicodetrue\Hy@unicodetrue
2547     }%
2548   \fi
2549 }

```

```

2550 \define@key{Hyp}{pdfencoding}{%
2551   \edef\HyPsd@temp{#1}%
2552   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2553     \let\HyPsd@pdfencoding\HyPsd@temp
2554     \Hy@unicodfalse
2555   \else
2556     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2557       \z@
2558     \else
2559       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2560         \z@
2561       \else
2562         \@ne
2563       \fi
2564     \fi
2565     \let\HyPsd@pdfencoding\HyPsd@temp
2566     \hypersetup{unicode}%
2567     \ifHy@unicode
2568       \def\HyPsd@pdfencoding{#1}%
2569       \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2570         \HyPsd@LoadStringEnc
2571       \fi
2572     \else
2573       \Hy@Warning{Cannot switch to unicode bookmarks}%
2574       \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2575     \fi
2576   \else
2577     \@onelevel@sanitize\HyPsd@temp
2578     \Hy@Warning{%
2579       Values of option 'pdfencoding':\MessageBreak
2580       'pdfdoc', 'unicode', 'auto'.\MessageBreak
2581       Ignoring unknown value '\HyPsd@temp'%
2582     }%
2583   \fi
2584 \fi
2585 }
2586 \def\HyPsd@pdfencoding@auto{auto}
2587 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2588 \def\HyPsd@pdfencoding@unicode{unicode}
2589 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2590 \def\HyPsd@LoadStringEnc{%
2591   \RequirePackage{stringenc}[2009/12/15]%
2592   \let\HyPsd@LoadStringEnc\relax
2593 }
2594 \Hy@AtBeginDocument{%
2595   \@ifpackageloaded{stringenc}{%
2596     \let\HyPsd@LoadStringEnc\relax
2597   }{%
2598     \def\HyPsd@LoadStringEnc{%
2599       \Hy@WarningNoLine{%
2600         Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2601         in the preamble or load the package there%
2602       }%
2603     }%
2604   }%
2605 }
2606 \newif\ifHy@setpdfversion

```

```

2607 \define@key{Hyp}{pdfversion}{%
2608   \@ifundefined{Hy@pdfversion@#1}{%
2609     \PackageWarning{hyperref}{%
2610       Unsupported PDF version '#1'.\MessageBreak
2611       Valid values: 1.2 until 1.9%
2612   }%
2613 }{%
2614   \Hy@setpdfversiontrue
2615   \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2616 }%
2617 }
2618 \@namedef{Hy@pdfversion@1.2}{2}%
2619 \@namedef{Hy@pdfversion@1.3}{3}%
2620 \@namedef{Hy@pdfversion@1.4}{4}%
2621 \@namedef{Hy@pdfversion@1.5}{5}%
2622 \@namedef{Hy@pdfversion@1.6}{6}%
2623 \@namedef{Hy@pdfversion@1.7}{7}%
2624 \@namedef{Hy@pdfversion@1.8}{8}%
2625 \@namedef{Hy@pdfversion@1.9}{9}%
2626 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

2627 \define@key{Hyp}{hyperref}[true]{%
2628 \define@key{Hyp}{tex4ht}[true]{%
2629   \Hy@texhttrue
2630   \setkeys{Hyp}{colorlinks=true}%
2631   \def\BeforeTeXIVht{\usepackage{color}}}%
2632 \def\Hy@driver{htex4ht}%
2633 \def\MaybeStopEarly{%
2634   \typeout{Hyperref stopped early}%
2635   \Hy@AtBeginDocument{%
2636     \PDF@FinishDoc
2637     \gdef\PDF@FinishDoc{}%
2638   }%
2639   \endinput
2640 }%
2641 }
2642 \define@key{Hyp}{pdftex}[true]{%
2643 \def\Hy@driver{hpdftex}%
2644 }
2645 \define@key{Hyp}{nativepdf}[true]{%
2646 \def\Hy@driver{hdvips}%
2647 }
2648 \define@key{Hyp}{dvipdfm}[true]{%
2649 \def\Hy@driver{hdvipdfm}%
2650 }
2651 \define@key{Hyp}{dvipdfmx}[true]{%
2652 \def\Hy@driver{hdvipdfm}%
2653 }
2654 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2655   \expandafter\ifx\csname if#1\expandafter\endcsname
2656     \csname iftrue\endcsname
2657     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2658   \else
2659     \chardef\SpecialDvipdfmxOutlineOpen\z@
2660   \fi

```



```

2661 }
2662 \define@key{Hyp}{xetex}[true]{%
2663   \def\Hy@driver{hxetex}%
2664 }
2665 \define@key{Hyp}{pdfmark}[true]{%
2666   \def\Hy@driver{hdvips}%
2667 }
2668 \define@key{Hyp}{dvips}[true]{%
2669   \def\Hy@driver{hdvips}%
2670 }
2671 \define@key{Hyp}{hypertex}[true]{%
2672   \def\Hy@driver{hypertex}%
2673 }
2674 \let\Hy@MaybeStopNow\relax
2675 \define@key{Hyp}{vtex}[true]{%
2676   \begingroup\expandafter\expandafter\expandafter\endgroup
2677   \expandafter\ifx\csname OpMode\endcsname\relax
2678     \latex@error{Non-VTeX processor}{}%
2679     \global\let\Hy@MaybeStopNow\endinput
2680   \endinput
2681   \else
2682     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2683       \def\Hy@driver{hvtex}%
2684       \else
2685         \ifnum\OpMode=10\relax
2686           \def\Hy@driver{hvtexhtm}%
2687           \def\MaybeStopEarly{%
2688             \typeout{Hyperref stopped early}%
2689             \Hy@AtBeginDocument{%
2690               \PDF@FinishDoc
2691               \gdef\PDF@FinishDoc{}}%
2692           }%
2693           \endinput
2694         }%
2695       \else
2696         \latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2697         \global\let\Hy@MaybeStopNow\endinput
2698       \endinput
2699     \fi
2700   \fi
2701 \fi
2702 }
2703 \define@key{Hyp}{vtexpdfmark}[true]{%
2704   \begingroup\expandafter\expandafter\expandafter\endgroup
2705   \expandafter\ifx\csname OpMode\endcsname\relax
2706     \latex@error{Non-VTeX processor}{}%
2707     \let\Hy@MaybeStopNow\endinput
2708   \endinput
2709   \else
2710     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2711       \def\Hy@driver{hvtexmrk}%
2712       \else
2713         \latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2714         \let\Hy@MaybeStopNow\endinput
2715       \endinput
2716     \fi
2717   \fi

```

```

2718 }
2719 \define@key{Hyp}{dviwindo}[true]{%
2720   \def\Hy@driver{hdvwind}%
2721   \setkeys{Hyp}{colorlinks}%
2722   \ifpdf
2723   \else
2724     \ifxetex
2725     \else
2726       \PassOptionsToPackage{dviwindo}{color}%
2727     \fi
2728   \fi
2729 }
2730 \define@key{Hyp}{dvipsone}[true]{%
2731   \def\Hy@driver{hdvipson}%
2732 }
2733 \define@key{Hyp}{textures}[true]{%
2734   \def\Hy@driver{htexture}%
2735 }
2736 \define@key{Hyp}{latex2html}[true]{%
2737   \Hy@AtBeginDocument{\@@latextohtmlX}%
2738 }

```

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

```

2739 \define@key{Hyp}{ps2pdf}[true]{%
2740   \def\Hy@driver{hdvips}%
2741   \providecommand*\@pdfborder{0 0 1}%
2742 }

```

## 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.

```

2743 \define@key{Hyp}{hyperfigures}[true]{%
2744   \Hy@boolkey[hyperfigures]{figures}{#1}%
2745 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2746 \define@key{Hyp}{hyperfootnotes}[true]{%
2747   \Hy@boolkey[hyperfootnotes]{#1}%
2748 }

```

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

```

2749 \def\back@none{none}
2750 \def\back@section{section}
2751 \def\back@page{page}
2752 \def\back@slide{slide}
2753 \define@key{Hyp}{backref}[section]{%
2754   \lowercase{\def\Hy@tempa{#1}}%
2755   \ifx\Hy@tempa\@empty
2756     \let\Hy@tempa\back@section
2757   \fi
2758   \ifx\Hy@tempa\Hy@false
2759     \let\Hy@tempa\back@none
2760   \fi
2761   \ifx\Hy@tempa\back@slide
2762     \let\Hy@tempa\back@section
2763   \fi
2764   \ifx\Hy@tempa\back@page

```

```

2765 \PassOptionsToPackage{hyperpageref}{backref}%
2766 \Hy@backreftrue
2767 \else
2768 \ifx\Hy@tempa\back@section
2769 \PassOptionsToPackage{hyperref}{backref}%
2770 \Hy@backreftrue
2771 \else
2772 \ifx\Hy@tempa\back@none
2773 \Hy@backreffalse
2774 \else
2775 \Hy@WarnOptionValue{#1}{backref}{%
2776 'section', 'slide', 'page', 'none',\MessageBreak
2777 or 'false'}%
2778 \fi
2779 \fi
2780 \fi
2781 }
2782 \define@key{Hyp}{pagebackref}[true]{%
2783 \edef\Hy@tempa{#1}%
2784 \lowercase\expandafter{%
2785 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2786 }%
2787 \ifx\Hy@tempa\@empty
2788 \let\Hy@tempa\Hy@true
2789 \fi
2790 \ifx\Hy@tempa\Hy@true
2791 \PassOptionsToPackage{hyperpageref}{backref}%
2792 \Hy@backreftrue
2793 \else
2794 \ifx\Hy@tempa\Hy@false
2795 \Hy@backreffalse
2796 \else
2797 \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
2798 \fi
2799 \fi
2800 }

```

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

```

2801 \define@key{Hyp}{hyperindex}[true]{%
2802 \Hy@boolkey{hyperindex}{#1}%
2803 }

```

Configuration of encap char.

```

2804 \define@key{Hyp}{encap}[||]{%
2805 \def\HyInd@EncapChar{#1}%
2806 }

```

## 12 Language options

The \autoref feature depends on the language.

```

2807 \def\HyLang@afrikaans{%
2808 \def\equationautorefname{Vergelyking}%
2809 \def\footnoteautorefname{Voetnota}%
2810 \def\itemautorefname{Item}%
2811 \def\figureautorefname{Figuur}%
2812 \def\tableautorefname{Tabel}%

```

```

2813 \def\partautorefname{Deel}%
2814 \def\appendixautorefname{Bylae}%
2815 \def\chapterautorefname{Hoofstuk}%
2816 \def\sectionautorefname{Afdeling}%
2817 \def\subsectionautorefname{Subafdeling}%
2818 \def\subsubsectionautorefname{Subsubafdeling}%
2819 \def\paragraphautorefname{Paragraaf}%
2820 \def\subparagraphautorefname{Subparagraaf}%
2821 \def\FancyVerbLineautorefname{Lyn}%
2822 \def\theoremautorefname{Teorema}%
2823 \def\pageautorefname{Bladsy}%
2824 }
2825 \def\HyLang@english{%
2826 \def\equationautorefname{Equation}%
2827 \def\footnoteautorefname{footnote}%
2828 \def\itemautorefname{item}%
2829 \def\figureautorefname{Figure}%
2830 \def\tableautorefname{Table}%
2831 \def\partautorefname{Part}%
2832 \def\appendixautorefname{Appendix}%
2833 \def\chapterautorefname{chapter}%
2834 \def\sectionautorefname{section}%
2835 \def\subsectionautorefname{subsection}%
2836 \def\subsubsectionautorefname{subsubsection}%
2837 \def\paragraphautorefname{paragraph}%
2838 \def\subparagraphautorefname{subparagraph}%
2839 \def\FancyVerbLineautorefname{line}%
2840 \def\theoremautorefname{Theorem}%
2841 \def\pageautorefname{page}%
2842 }
2843 \def\HyLang@french{%
2844 \def\equationautorefname{'Equation}%
2845 \def\footnoteautorefname{note}%
2846 \def\itemautorefname{item}%
2847 \def\figureautorefname{Figure}%
2848 \def\tableautorefname{Tableau}%
2849 \def\partautorefname{Partie}%
2850 \def\appendixautorefname{Appendice}%
2851 \def\chapterautorefname{chapitre}%
2852 \def\sectionautorefname{section}%
2853 \def\subsectionautorefname{sous-section}%
2854 \def\subsubsectionautorefname{sous-sous-section}%
2855 \def\paragraphautorefname{paragraphe}%
2856 \def\subparagraphautorefname{sous-paragraphe}%
2857 \def\FancyVerbLineautorefname{ligne}%
2858 \def\theoremautorefname{Th\'eor\'eme}%
2859 \def\pageautorefname{page}%
2860 }
2861 \def\HyLang@german{%
2862 \def\equationautorefname{Gleichung}%
2863 \def\footnoteautorefname{Fu\ss note}%
2864 \def\itemautorefname{Punkt}%
2865 \def\figureautorefname{Abbildung}%
2866 \def\tableautorefname{Tabelle}%
2867 \def\partautorefname{Teil}%
2868 \def\appendixautorefname{Anhang}%
2869 \def\chapterautorefname{Kapitel}%

```

```

2870 \def\sectionautorefname{Abschnitt}%
2871 \def\subsectionautorefname{Unterabschnitt}%
2872 \def\subsubsectionautorefname{Unterunterabschnitt}%
2873 \def\paragraphautorefname{Absatz}%
2874 \def\subparagraphautorefname{Unterabsatz}%
2875 \def\FancyVerbLineautorefname{Zeile}%
2876 \def\theoremautorefname{Theorem}%
2877 \def\pageautorefname{Seite}%
2878 }
2879 \def\HyLang@italian{%
2880 \def\equationautorefname{Equazione}%
2881 \def\footnoteautorefname{nota}%
2882 \def\itemautorefname{punto}%
2883 \def\figureautorefname{Figura}%
2884 \def\tableautorefname{Tabella}%
2885 \def\partautorefname{Parte}%
2886 \def\appendixautorefname{Appendice}%
2887 \def\chapterautorefname{Capitolo}%
2888 \def\sectionautorefname{sezione}%
2889 \def\subsectionautorefname{sottosezione}%
2890 \def\subsubsectionautorefname{sottosottosezione}%
2891 \def\paragraphautorefname{paragrafo}%
2892 \def\subparagraphautorefname{sottoparagrafo}%
2893 \def\FancyVerbLineautorefname{linea}%
2894 \def\theoremautorefname{Teorema}%
2895 \def\pageautorefname{Pag.\@}%
2896 }
2897 \def\HyLang@magyar{%
2898 \def\equationautorefname{Egyenlet}%
2899 \def\footnoteautorefname{!\'abjegyzet}%
2900 \def\itemautorefname{Elem}%
2901 \def\figureautorefname{'\Abra}%
2902 \def\tableautorefname{T\'abl\'azat}%
2903 \def\partautorefname{R\'esz}%
2904 \def\appendixautorefname{F\'uggel\'ek}%
2905 \def\chapterautorefname{fejezet}%
2906 \def\sectionautorefname{szakasz}%
2907 \def\subsectionautorefname{alszakasz}%
2908 \def\subsubsectionautorefname{alalszakasz}%
2909 \def\paragraphautorefname{bekezd\'es}%
2910 \def\subparagraphautorefname{albekezd\'es}%
2911 \def\FancyVerbLineautorefname{sor}%
2912 \def\theoremautorefname{T\'étel}%
2913 \def\pageautorefname{oldal}%
2914 }
2915 \def\HyLang@portuges{%
2916 \def\equationautorefname{Equa\c c\~ao}%
2917 \def\footnoteautorefname{Nota de rodap\'e}%
2918 \def\itemautorefname{Item}%
2919 \def\figureautorefname{Figura}%
2920 \def\tableautorefname{Tabela}%
2921 \def\partautorefname{Parte}%
2922 \def\appendixautorefname{Ap\~endice}%
2923 \def\chapterautorefname{Cap\'itulo}%
2924 \def\sectionautorefname{Se\c c\~ao}%
2925 \def\subsectionautorefname{Subse\c c\~ao}%
2926 \def\subsubsectionautorefname{Subsubse\c c\~ao}%

```



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

```
2951 \def\partautorefname{\cyr\cyrch.}%
2952 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2953 \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.

```
2954 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2955 % \def\appendixautorefname{%
2956 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrzh\cyre\cyrn\cyri\cyre
2957 % }%
```

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.

```
2958 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2959 \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.

```
2960 \def\paragraphautorefname{\cyr\cyrp.}%
2961 \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.

```
2962 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt.}%
2963 % \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.

```
2964 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
2965 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2966 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2967 % \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 . . .

```
2968 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2969 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2970 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2971 \def\pageautorefname{\cyr\cyrs.}%
2972 }
```

```

2973 \def\HyLang@spanish{%
2974   \def\equationautorefname{Ecuaci\`on}%
2975   \def\footnoteautorefname{Nota a pie de p\`agina}%
2976   \def\itemautorefname{Elemento}%
2977   \def\figureautorefname{Figura}%
2978   \def\tableautorefname{Tabla}%
2979   \def\partautorefname{Parte}%
2980   \def\appendixautorefname{Ap\`endice}%
2981   \def\chapterautorefname{Cap\`itulo}%
2982   \def\sectionautorefname{Secci\`on}%
2983   \def\subsectionautorefname{Subsecci\`on}%
2984   \def\subsubsectionautorefname{Subsubsecci\`on}%
2985   \def\paragraphautorefname{P\`arrafo}%
2986   \def\subparagraphautorefname{Subp\`arrafo}%
2987   \def\FancyVerbLineautorefname{L\`inea}%
2988   \def\theoremautorefname{Teorema}%
2989   \def\pageautorefname{P\`agina}%
2990 }
2991 \def\HyLang@vietnamese{%
2992   \def\equationautorefname{Ph\`uhorn{}}\ohorn{}}ng tr\`inh}%
2993   \def\footnoteautorefname{Ch\`u th\`ich}%
2994   \def\itemautorefname{m\`d{u}c}%
2995   \def\figureautorefname{H\`inh}%
2996   \def\tableautorefname{B\`h{a}ng}%
2997   \def\partautorefname{Ph\`'\acircumflex{}n}%
2998   \def\appendixautorefname{Ph\`d{u} l\`d{u}c}%
2999   \def\chapterautorefname{ch\`uhorn{}}\ohorn{}}ng}%
3000   \def\sectionautorefname{m\`d{u}c}%
3001   \def\subsectionautorefname{m\`d{u}c}%
3002   \def\subsubsectionautorefname{m\`d{u}c}%
3003   \def\paragraphautorefname{\dj{}}o\`d{a}n}%
3004   \def\subparagraphautorefname{\dj{}}o\`d{a}n}%
3005   \def\FancyVerbLineautorefname{d\`ong}%
3006   \def\theoremautorefname{DJ{}}d{i}nh l\`y}%
3007   \def\pageautorefname{Trang}%
3008 }

```

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

```

3009 \def\HyLang@addto#1#2{%
3010   #2%
3011   \@temptokena{#2}%
3012   \ifx#1\relax
3013     \let#1\@empty
3014   \fi
3015   \ifx#1\@undefined
3016     \edef#1{\the\@temptokena}%
3017   \else
3018     \toks@\expandafter{#1}%
3019     \edef#1{\the\toks@\the\@temptokena}%
3020   \fi
3021   \@temptokena{}\toks@\@temptokena
3022 }
3023 \def\HyLang@DeclareLang#1#2#3{%
3024   \begingroup
3025     \edef\x##1##2{%
3026       \noexpand\ifx##2\relax

```



```

3027 \errmessage{No definitions for language #2' found!}%
3028 \noexpand\fi
3029 \endgroup
3030 \noexpand\define@key{Hyp}{#1}[]{}%
3031 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3032 #3%
3033 }%
3034 }%
3035 \expandafter\x\csname extras#1\expandafter\endcsname
3036 \csname HyLang@#2\endcsname
3037 }
3038 \HyLang@DeclareLang{english}{english}{}
3039 \HyLang@DeclareLang{UKenglish}{english}{}
3040 \HyLang@DeclareLang{british}{english}{}
3041 \HyLang@DeclareLang{USenglish}{english}{}
3042 \HyLang@DeclareLang{american}{english}{}
3043 \HyLang@DeclareLang{german}{german}{}
3044 \HyLang@DeclareLang{austrian}{german}{}
3045 \HyLang@DeclareLang{ngerman}{german}{}
3046 \HyLang@DeclareLang{naustrian}{german}{}
3047 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3048 \HyLang@DeclareLang{brazil}{portuges}{}
3049 \HyLang@DeclareLang{brazilian}{portuges}{}
3050 \HyLang@DeclareLang{portuguese}{portuges}{}
3051 \HyLang@DeclareLang{spanish}{spanish}{}
3052 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3053 \HyLang@DeclareLang{french}{french}{}
3054 \HyLang@DeclareLang{frenchb}{french}{}
3055 \HyLang@DeclareLang{français}{french}{}
3056 \HyLang@DeclareLang{acadian}{french}{}
3057 \HyLang@DeclareLang{canadien}{french}{}
3058 \HyLang@DeclareLang{italian}{italian}{}
3059 \HyLang@DeclareLang{magyar}{magyar}{}
3060 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3061 \define@key{Hyp}{vietnamese}[]{}%
3062 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3063 \Hy@AtEndOfPackage{%
3064 \ifundefined{T@PU}{}{}%
3065 \input{puvnenc.def}%
3066 }%
3067 }%
3068 }
3069 \define@key{Hyp}{vietnam}[]{}%
3070 \HyLang@addto\extrasvietnam\HyLang@vietnamese
3071 \Hy@AtEndOfPackage{%
3072 \ifundefined{T@PU}{}{}%
3073 \input{puvnenc.def}%
3074 }%
3075 }%
3076 }

```

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

```

3077 \define@key{Hyp}{arabic}[]{}%
3078 \Hy@AtEndOfPackage{%
3079 \ifundefined{T@PU}{}{}%
3080 \input{puarenc.def}%

```

```

3081 }%
3082 }%
3083 }

```

## 13 Options to change appearance of links

Colouring links at the  $\LaTeX$  level is useful for debugging, perhaps.

```

3084 \define@key{Hyp}{colorlinks}[true]{%
3085   \Hy@boolkey{colorlinks}{#1}%
3086 }
3087 \define@key{Hyp}{ocgcolorlinks}[true]{%
3088   \Hy@boolkey{ocgcolorlinks}{#1}%
3089 }
3090 \Hy@AtBeginDocument{%
3091   \begingroup
3092     \ifundefined{OBJ@OCG@view}{%
3093       \ifHy@ocgcolorlinks
3094         \Hy@Warning{%
3095           Driver does not support ‘ocgcolorlinks’,\MessageBreak
3096           using ‘colorlinks’ instead%
3097         }%
3098       \fi
3099     }{}%
3100   \endgroup
3101 }
3102 \define@key{Hyp}{frenchlinks}[true]{%
3103   \Hy@boolkey{frenchlinks}{#1}%
3104 }

```

## 14 Bookmarking

```

3105 \begingroup\expandafter\expandafter\expandafter\endgroup
3106 \expandafter\ifx\csname chapter\endcsname\relax
3107   \def\toclevel@part{0}%
3108 \else
3109   \def\toclevel@part{-1}%
3110 \fi
3111 \def\toclevel@chapter{0}
3112 \def\toclevel@section{1}
3113 \def\toclevel@subsection{2}
3114 \def\toclevel@subsubsection{3}
3115 \def\toclevel@paragraph{4}
3116 \def\toclevel@subparagraph{5}
3117 \def\toclevel@figure{0}
3118 \def\toclevel@table{0}
3119 \ifpackageloaded{listings}{%
3120   \providecommand*\theHlstlisting{\thelstlisting}%
3121   \providecommand*\toclevel@lstlisting{0}%
3122 }{}
3123 \ifpackageloaded{listing}{%
3124   \providecommand*\theHlisting{\thelisting}%
3125   \providecommand*\toclevel@listing{0}%
3126 }{}
3127 \define@key{Hyp}{bookmarks}[true]{%
3128   \Hy@boolkey{bookmarks}{#1}%

```

```

3129 }
3130 \define@key{Hyp}{bookmarksopen}[true]{%
3131   \Hy@boolkey{bookmarksopen}{#1}%
3132 }

```

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.

```

3133 \let\Hy@bookmarksdepth\c@tocdepth
3134 \define@key{Hyp}{bookmarksdepth}[]{%
3135   \begingroup
3136     \edef\x{#1}%
3137     \ifx\x\empty
3138       \global\let\Hy@bookmarksdepth\c@tocdepth
3139     \else
3140       \ifundefined{toclevel@\x}{%
3141         \@onelevel@sanitize\x
3142         \edef\y{\expandafter\@car\x\@nil}%
3143         \ifcase 0\expandafter\ifx\y-1\fi
3144           \expandafter\ifnum\expandafter\y>47 %
3145             \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
3146           \Hy@Warning{Unknown document division name (\x)}%
3147         \else
3148           \setbox\z@=\hbox{%
3149             \count@=\x
3150             \xdef\Hy@bookmarksdepth{\the\count@}%
3151           }%
3152         \fi
3153       }{%
3154         \setbox\z@=\hbox{%
3155           \count@=\csname toclevel@\x\endcsname
3156           \xdef\Hy@bookmarksdepth{\the\count@}%
3157         }%
3158       }%
3159     \fi
3160   \endgroup
3161 }

```

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

```

3162 \define@key{Hyp}{bookmarksopenlevel}{%
3163   \def\@bookmarksopenlevel{#1}%
3164 }
3165 \def\@bookmarksopenlevel{\maxdimen}
3166 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3167 \define@key{Hyp}{bookmarkstype}{%
3168   \def\Hy@bookmarkstype{#1}%
3169 }
3170 \def\Hy@bookmarkstype{toc}

```

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

```

3171 \define@key{Hyp}{bookmarksnumbered}[true]{%
3172   \Hy@boolkey{bookmarksnumbered}{#1}%
3173 }

Option CJKbookmarks enables the patch for CJK bookmarks.

3174 \define@key{Hyp}{CJKbookmarks}[true]{%
3175   \Hy@boolkey{CJKbookmarks}{#1}%
3176 }

3177 \def\Hy@temp#1{%
3178   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3179 }
3180 \def\Hy@@temp#1#2#3{%
3181   \define@key{Hyp}{#2color}{%
3182     \HyColor@HyperrefColor{##1}#1%
3183   }%
3184   \def#1{#3}%
3185 }
3186 \Hy@temp{link}{red}
3187 \Hy@temp{anchor}{black}
3188 \Hy@temp{cite}{green}
3189 \Hy@temp{file}{cyan}
3190 \Hy@temp{url}{magenta}
3191 \Hy@temp{menu}{red}
3192 \Hy@temp{run}{\@filecolor}
3193 \define@key{Hyp}{pagecolor}{%
3194   \Hy@WarningPageColor
3195 }
3196 \def\Hy@WarningPageColor{%
3197   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
3198   \global\let\Hy@WarningPageColor\relax
3199 }

3200 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3201 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3202 \let\@baseurl\@empty
3203 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3204 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3205 \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.

```

3206 \let\@pdfpagetransition\relax
3207 \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.

```

3208 \let\@pdfpageduration\relax
3209 \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.

```

3210 \newif\ifHy@useHidKey
3211 \Hy@useHidKeyfalse
3212 \define@key{Hyp}{pdfpagehidden}[true]{%
3213   \Hy@boolkey{pdfpagehidden}{#1}%
3214   \ifHy@pdfpagehidden
3215     \global\Hy@useHidKeytrue
3216   \fi
3217 }

```

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).

```

3218 \def\Hy@ColorList{cite,file,link,menu,run,url}
3219 \@for\Hy@temp:=\Hy@ColorList\do{%
3220   \edef\Hy@temp{%
3221     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3222       \noexpand\HyColor@HyperrefBorderColor
3223       {##1}%
3224       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3225       {hyperref}%
3226       {\Hy@temp bordercolor}%
3227     }%
3228   }%
3229   \Hy@temp
3230 }
3231 \define@key{Hyp}{pagebordercolor}{%
3232   \Hy@WarningPageBorderColor
3233 }
3234 \def\Hy@WarningPageBorderColor{%
3235   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3236   \global\let\Hy@WarningPageBorderColor\relax
3237 }
3238 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3239 \Hy@DefNameKey{pdfhighlight}{%
3240   \do{/I}{Invert}%
3241   \do{/N}{None}%
3242   \do{/O}{Outline}%
3243   \do{/P}{Push}%
3244 }
3245 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
3246 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
3247 \def\Hy@setpdfborder{%
3248   \ifx\@pdfborder\@empty
3249     \else
3250       /Border[\@pdfborder]%
3251     \fi
3252   \ifx\@pdfborderstyle\@empty
3253     \else
3254       /BS<<\@pdfborderstyle>>%
3255     \fi
3256 }
3257 \Hy@DefNameKey{pdfpagemode}{%
3258   \do{UseNone}{}%

```

```

3259 \do{UseOutlines}{}%
3260 \do{UseThumbs}{}%
3261 \do{FullScreen}{}%
3262 \do{UseOC}{PDF 1.5}%
3263 \do{UseAttachments}{PDF 1.6}%
3264 }
3265 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3266 \do{UseNone}{}%
3267 \do{UseOutlines}{}%
3268 \do{UseThumbs}{}%
3269 \do{FullScreen}{}%
3270 \do{UseOC}{PDF 1.5}%
3271 \do{UseAttachments}{PDF 1.6}%
3272 }
3273 \Hy@DefNameKey{pdfdirection}{%
3274 \do{L2R}{Left to right}%
3275 \do{R2L}{Right to left}%
3276 }
3277 \Hy@DefNameKey{pdfviewarea}{%
3278 \do{MediaBox}{}%
3279 \do{CropBox}{}%
3280 \do{BleedBox}{}%
3281 \do{TrimBox}{}%
3282 \do{ArtBox}{}%
3283 }
3284 \Hy@DefNameKey{pdfviewclip}{%
3285 \do{MediaBox}{}%
3286 \do{CropBox}{}%
3287 \do{BleedBox}{}%
3288 \do{TrimBox}{}%
3289 \do{ArtBox}{}%
3290 }
3291 \Hy@DefNameKey{pdfprintarea}{%
3292 \do{MediaBox}{}%
3293 \do{CropBox}{}%
3294 \do{BleedBox}{}%
3295 \do{TrimBox}{}%
3296 \do{ArtBox}{}%
3297 }
3298 \Hy@DefNameKey{pdfprintclip}{%
3299 \do{MediaBox}{}%
3300 \do{CropBox}{}%
3301 \do{BleedBox}{}%
3302 \do{TrimBox}{}%
3303 \do{ArtBox}{}%
3304 }
3305 \Hy@DefNameKey{pdfprintscaling}{%
3306 \do{AppDefault}{}%
3307 \do{None}{}%
3308 }
3309 \Hy@DefNameKey{pdfduplex}{%
3310 \do{Simplex}{}%
3311 \do{DuplexFlipShortEdge}{}%
3312 \do{DuplexFlipLongEdge}{}%
3313 }
3314 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3315 \do{true}{}%

```

```

3316 \do{false}{}%
3317 }
3318 \define@key{Hyp}{pdfprintpagerange}{%
3319 \def\@pdfprintpagerange{#1}%
3320 }
3321 \Hy@DefNameKey{pdfnumcopies}{%
3322 \do{2}{two copies}%
3323 \do{3}{three copies}%
3324 \do{4}{four copies}%
3325 \do{5}{five copies}%
3326 }

3327 \define@key{Hyp}{pdfusetitle}[true]{%
3328 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3329 }
3330 \def\HyXeTeX@CheckUnicode{%
3331 \ifxetex
3332 \ifHy@unicode
3333 \else
3334 \Hy@WarningNoLine{%
3335 XeTeX driver only supports unicode.\MessageBreak
3336 Enabling option 'unicode'%
3337 }%
3338 \setkeys{Hyp}{unicode}%
3339 \fi
3340 \else
3341 \let\HyXeTeX@CheckUnicode\relax
3342 \fi
3343 }
3344 \def\HyPsd@PrerenderUnicode#1{%
3345 \begingroup
3346 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3347 \else
3348 \sbox0{%
3349 \let\GenericInfo\@gobbletwo
3350 \let\GenericWarning\@gobbletwo
3351 \let\GenericError\@gobblefour
3352 \PrerenderUnicode{#1}%
3353 }%
3354 \fi
3355 \endgroup
3356 }
3357 \define@key{Hyp}{pdftitle}{%
3358 \HyXeTeX@CheckUnicode
3359 \HyPsd@XeTeXBigCharstrue
3360 \HyPsd@PrerenderUnicode{#1}%
3361 \pdfstringdef\@pdftitle{#1}%
3362 }
3363 \define@key{Hyp}{pdfauthor}{%
3364 \HyXeTeX@CheckUnicode
3365 \HyPsd@XeTeXBigCharstrue
3366 \HyPsd@PrerenderUnicode{#1}%
3367 \pdfstringdef\@pdfauthor{#1}%
3368 }
3369 \define@key{Hyp}{pdfproducer}{%
3370 \HyXeTeX@CheckUnicode
3371 \HyPsd@XeTeXBigCharstrue
3372 \HyPsd@PrerenderUnicode{#1}%

```

```

3373 \pdfstringdef\@pdfproducer{#1}%
3374 }
3375 \define@key{Hyp}{pdfcreator}{%
3376 \HyXeTeX@CheckUnicode
3377 \HyPsd@XeTeXBigCharstrue
3378 \HyPsd@PrerenderUnicode{#1}%
3379 \pdfstringdef\@pdfcreator{#1}%
3380 }
3381 \define@key{Hyp}{pdfcreationdate}{%
3382 \begingroup
3383 \Hy@unicodedefalse
3384 \pdfstringdef\@pdfcreationdate{#1}%
3385 \endgroup
3386 }
3387 \define@key{Hyp}{pdfmoddate}{%
3388 \begingroup
3389 \Hy@unicodedefalse
3390 \pdfstringdef\@pdfmoddate{#1}%
3391 \endgroup
3392 }
3393 \define@key{Hyp}{pdfsubject}{%
3394 \HyXeTeX@CheckUnicode
3395 \HyPsd@XeTeXBigCharstrue
3396 \HyPsd@PrerenderUnicode{#1}%
3397 \pdfstringdef\@pdfsubject{#1}%
3398 }
3399 \define@key{Hyp}{pdfkeywords}{%
3400 \HyXeTeX@CheckUnicode
3401 \HyPsd@XeTeXBigCharstrue
3402 \HyPsd@PrerenderUnicode{#1}%
3403 \pdfstringdef\@pdfkeywords{#1}%
3404 }
3405 \define@key{Hyp}{pdftrapped}{%
3406 \lowercase{\edef\Hy@temp{#1}}%
3407 \ifx\Hy@temp\HyInfo@trapped@true
3408 \def\@pdftrapped{True}%
3409 \else
3410 \ifx\Hy@temp\HyInfo@trapped@false
3411 \def\@pdftrapped{False}%
3412 \else
3413 \ifx\Hy@temp\HyInfo@trapped@unknown
3414 \def\@pdftrapped{Unknown}%
3415 \else
3416 \ifx\Hy@temp\@empty
3417 \else
3418 \Hy@Warning{%
3419 Unsupported value '#1'\MessageBreak
3420 for option 'pdftrapped'%
3421 }%
3422 \fi
3423 \def\@pdftrapped{}%
3424 \fi
3425 \fi
3426 \fi
3427 }
3428 \def\HyInfo@trapped@true{true}
3429 \def\HyInfo@trapped@false{false}

```



```

3430 \def\HyInfo@trapped@unknown{unknown}
3431 \def\HyInfo@TrappedUnsupported{%
3432   \ifx\@pdftrapped\@empty
3433   \else
3434     \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3435     \gdef\HyInfo@TrappedUnsupported{}%
3436   \fi
3437 }
3438 \define@key{Hyp}{pdfinfo}{%
3439   \kvsetkeys{pdfinfo}{#1}%
3440 }
3441 \def\Hy@temp#1{%
3442   \lowercase{\Hy@temp@A{#1}}{#1}%
3443 }
3444 \def\Hy@temp@A#1#2{%
3445   \define@key{pdfinfo}{#2}{%
3446     \hypersetup{pdf#1={##1}}%
3447   }%
3448 }
3449 \Hy@temp{Title}
3450 \Hy@temp{Author}
3451 \Hy@temp{Keywords}
3452 \Hy@temp{Subject}
3453 \Hy@temp{Creator}
3454 \Hy@temp{Producer}
3455 \Hy@temp{CreationDate}
3456 \Hy@temp{ModDate}
3457 \Hy@temp{Trapped}
3458 \newif\ifHyInfo@AddonUnsupported
3459 \kv@set@family@handler{pdfinfo}{%
3460   \HyInfo@AddonHandler{#1}{#2}%
3461 }
3462 \let\HyInfo@do\relax
3463 \def\HyInfo@AddonHandler#1#2{%
3464   \ifx\kv@value\relax
3465     \Hy@Warning{%
3466       Option 'pdfinfo': ignoring key '\kv@key' without value%
3467     }%
3468   \else
3469     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3470     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3471     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3472     \ifHyInfo@AddonUnsupported
3473       \Hy@Warning{%
3474         This driver does not support additional\MessageBreak
3475         information entries, therefore\MessageBreak
3476         '\kv@key' is ignored%
3477       }%
3478     \else
3479       \define@key{pdfinfo}{\HyInfo@Key}{%
3480         \HyXeTeX@CheckUnicode
3481         \HyPsd@XeTeXBigCharstrue
3482         \HyPsd@PrerenderUnicode{##1}%
3483         \pdfstringdef\HyInfo@Value{##1}%
3484         \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3485         \HyInfo@Value
3486       }%

```

```

3487 \edef\HyInfo@AddonList{%
3488 \HyInfo@AddonList
3489 \HyInfo@do{\HyInfo@Key}%
3490 }%
3491 \kv@parse@normalized{%
3492 \HyInfo@Key={#2}%
3493 }{%
3494 \kv@processor@default{pdfinfo}%
3495 }%
3496 \fi
3497 \else
3498 \kv@parse@normalized{%
3499 \HyInfo@Key={#2}%
3500 }{%
3501 \kv@processor@default{pdfinfo}%
3502 }%
3503 \fi
3504 \fi
3505 }
3506 \def\HyInfo@GenerateAddons{%
3507 \ifHyInfo@AddonUnsupported
3508 \def\HyInfo@Addons{}%
3509 \else
3510 \begingroup
3511 \toks@{}%
3512 \def\HyInfo@do##1{%
3513 \EdefEscapeName\HyInfo@Key{##1}%
3514 \edef\x{%
3515 \toks@{%
3516 \the\toks@
3517 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3518 }%
3519 }%
3520 \x
3521 }%
3522 \HyInfo@AddonList
3523 \edef\x{\endgroup
3524 \def\noexpand\HyInfo@Addons{\the\toks@}%
3525 }%
3526 \x
3527 \fi
3528 }
3529 \def\HyInfo@AddonList{}
3530 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3531 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3532 \let\setpdfinkmargin\@gobble
3533 \def\calculate@pdfview#1 #2\{%
3534 \def\@pdfview{#1}%
3535 \ifx\#2\%
3536 \def\@pdfviewparams{-32768}%
3537 \else
3538 \def\@pdfviewparams{#2}%
3539 \fi
3540 }
3541 \begingroup\expandafter\expandafter\expandafter\endgroup
3542 \expandafter\ifx\csname numexpr\endcsname\relax
3543 \def\Hy@number#1{%

```

```

3544 \expandafter\@firstofone\expandafter{\number#1}%
3545 }%
3546 \else
3547 \def\Hy@number#1{%
3548 \the\numexpr#1\relax
3549 }%
3550 \fi
3551 \define@key{Hyp}{pdfstartpage}{%
3552 \ifx\#1\%
3553 \def\@pdfstartpage{%
3554 \else
3555 \edef\@pdfstartpage{\Hy@number{#1}}%
3556 \fi
3557 }%
3558 \define@key{Hyp}{pdfstartview}{%
3559 \ifx\#1\%
3560 \def\@pdfstartview{%
3561 \else
3562 \hypercalcbpdef\@pdfstartview{ /#1 }%
3563 \fi
3564 }
3565 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3566 \define@key{Hyp}{pdftoolbar}[true]{%
3567 \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3568 }
3569 \define@key{Hyp}{pdfmenubar}[true]{%
3570 \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3571 }
3572 \define@key{Hyp}{pdfwindowui}[true]{%
3573 \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3574 }
3575 \define@key{Hyp}{pdffitwindow}[true]{%
3576 \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3577 }
3578 \define@key{Hyp}{pdfcenterwindow}[true]{%
3579 \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3580 }
3581 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3582 \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3583 }
3584 \define@key{Hyp}{pdfa}[true]{%
3585 \Hy@boolkey{pdfa}{#1}%
3586 }
3587 \define@key{Hyp}{pdfnewwindow}[true]{%
3588 \def\Hy@temp{#1}%
3589 \ifx\Hy@temp\@empty
3590 \Hy@newwindowsetfalse
3591 \else
3592 \Hy@newwindowsettrue
3593 \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3594 \fi
3595 }
3596 \def\Hy@SetNewWindow{%
3597 \ifHy@newwindowset
3598 /NewWindow %
3599 \ifHy@newwindow true\else false\fi
3600 \fi

```

```

3601 }
3602 \Hy@DefNameKey{pdfpagelayout}{%
3603   \do{SinglePage}{}%
3604   \do{OneColumn}{}%
3605   \do{TwoColumnLeft}{}%
3606   \do{TwoColumnRight}{}%
3607   \do{TwoPageLeft}{PDF 1.5}%
3608   \do{TwoPageRight}{PDF 1.5}%
3609 }
3610 \define@key{Hyp}{pdflang}{%
3611   \def\@pdflang{#1}%
3612 }
3613 \define@key{Hyp}{pdfpagelabels}[true]{%
3614   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3615 }
3616 \define@key{Hyp}{pdfescapeform}[true]{%
3617   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3618 }

```

Default values:

```

3619 \def\@linkbordercolor{1 0 0}
3620 \def\@urlbordercolor{0 1 1}
3621 \def\@menubordercolor{1 0 0}
3622 \def\@filebordercolor{0 .5 .5}
3623 \def\@runbordercolor{0 .7 .7}
3624 \def\@citebordercolor{0 1 0}
3625 \def\@pdfhighlight{/I}
3626 \def\@pdftitle{}
3627 \def\@pdfauthor{}
3628 \let\@pdfproducer\relax
3629 \def\@pdfcreator{LaTeX with hyperref package}
3630 \def\@pdfcreationdate{}
3631 \def\@pdfmoddate{}
3632 \def\@pdfsubject{}
3633 \def\@pdfkeywords{}
3634 \def\@pdftrapped{}
3635 \def\@pdfpagescrop{}
3636 \def\@pdfstartview{/Fit }
3637 \def\@pdfstartpage{1}
3638 \def\@pdfprintpagerange{}
3639 \def\@pdflang{}
3640 \let\PDF@SetupDoc\@empty
3641 \let\PDF@FinishDoc\@empty
3642 \let\phantomsection\@empty
3643 \let\special@paper\@empty
3644 \def\HyperDestNameFilter#1{#1}
3645 \Hy@AtBeginDocument{%
3646   \begingroup
3647     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3648     \dimen@=\x\relax
3649     \ifdim\dimen@>\z@
3650       \else
3651         \dimen@=11in\relax
3652         \Hy@WarningNoLine{%
3653           Height of page (\expandafter\string\x) %
3654           is invalid (\the\x),\MessageBreak
3655           using 11in%
3656         }%

```

```

3657 \fi
3658 \dimen@=0.99626401\dimen@
3659 \xdef\Hy@pageheight{\strip@pt\dimen@}%
3660 \endgroup
3661 }
3662 \def\HyInd@EncapChar{\|}
3663 \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.

```

3664 \let\hyper@normalise\ExecuteOptions
3665 \let\ExecuteOptions\hypersetup
3666 \Hy@RestoreCatcodes
3667 \InputIfFileExists{hyperref.cfg}{\{}}{\}
3668 \Hy@SetCatcodes
3669 \let\ExecuteOptions\hyper@normalise
3670 \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`.

```

3671 \RequirePackage{kvoptions}[2009/07/21]
3672 \SetupKeyvalOptions{family=Hyp}
3673 \DeclareLocalOptions{%
3674   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
3675 }

```

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

```

3676 \@ifpackageloaded{tex4ht}{\%
3677   \ifpackagewith{hyperref}{tex4ht}{\{}}{\}%
3678   \PassOptionsToPackage{tex4ht}{hyperref}%
3679   }%
3680 \{}
3681 \let\ReadBookmarks\relax
3682 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

3683 \Hy@AtBeginDocument{%
3684   \ifHy@draft
3685     \let\hyper@@anchor\@gobble
3686     \gdef\hyper@link#1#2#3{#3}%
3687     \let\hyper@anchorstart\@gobble
3688     \let\hyper@anchorend\@empty
3689     \let\hyper@linkstart\@gobbletwo
3690     \let\hyper@linkend\@empty
3691     \def\hyper@linkurl#1#2{#1}%
3692     \def\hyper@linkfile#1#2#3{#1}%
3693     \def\hyper@link@{#1}#2#3{}%
3694     \def\Acrobatmenu#1#2{\leavevmode#2}%
3695     \let\PDF@SetupDoc\@empty
3696     \let\PDF@FinishDoc\@empty
3697     \let\@fifthoffive\@secondoftwo
3698     \let\@secondoffive\@secondoftwo
3699     \let\ReadBookmarks\relax
3700     \let\WriteBookmarks\relax

```

```

3701 \Hy@WarningNoLine{ draft mode on}%
3702 \fi
3703 \Hy@DisableOption{draft}%
3704 \Hy@DisableOption{nolinks}%
3705 \Hy@DisableOption{final}%
3706 }

```

## 15.1 PDF/A

```

3707 \Hy@DisableOption{pdfa}

3708 \ifHy@pdfa
3709 \setkeys{Hyp}{pdfversion=1.4}%
3710 \def\Hy@Acrobatmenu#1#2{%
3711 \leavevmode
3712 \begingroup
3713 \edef\x{#1}%
3714 \@onelevel@sanitize\x
3715 \ifx\x\Hy@NextPage
3716 \let\y=Y%
3717 \else
3718 \ifx\x\Hy@PrevPage
3719 \let\y=Y%
3720 \else
3721 \ifx\x\Hy@FirstPage
3722 \let\y=Y%
3723 \else
3724 \ifx\x\Hy@LastPage
3725 \let\y=Y%
3726 \else
3727 \let\y=N%
3728 \fi
3729 \fi
3730 \fi
3731 \fi
3732 \expandafter\endgroup
3733 \ifx\y Y%
3734 \else
3735 \PackageError{hyperref}{%
3736 PDF/A: Named action ‘#1’ is not permitted%
3737 }\@ehc
3738 {#2}%
3739 \expandafter\@gobble
3740 \fi
3741 }%
3742 \def\Hy@temp#1{%
3743 \expandafter\def\csname Hy@#1\endcsname{#1}%
3744 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3745 }%
3746 \Hy@temp{NextPage}%
3747 \Hy@temp{PrevPage}%
3748 \Hy@temp{FirstPage}%
3749 \Hy@temp{LastPage}%
3750 \else
3751 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3752 \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.

```
3753 \Hy@nextfalse
3754 \ltx@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
3755 \ltx@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
3756 \ltx@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3757 \ifHy@next
3758   \let\texttilde\~%
3759 \fi

3760 \ifHy@figures
3761   \Hy@Info{Hyper figures ON}%
3762 \else
3763   \Hy@Info{Hyper figures OFF}%
3764 \fi

3765 \ifHy@nesting
3766   \Hy@Info{Link nesting ON}%
3767 \else
3768   \Hy@Info{Link nesting OFF}%
3769 \fi

3770 \ifHy@hyperindex
3771   \Hy@Info{Hyper index ON}%
3772 \else
3773   \Hy@Info{Hyper index OFF}%
3774 \fi

3775 \ifHy@plainpages
3776   \Hy@Info{Plain pages ON}%
3777 \else
3778   \Hy@Info{Plain pages OFF}%
3779 \fi

3780 \ifHy@backref
3781   \Hy@Info{Backreferencing ON}%
3782 \else
3783   \Hy@Info{Backreferencing OFF}%
3784 \fi

3785 \ifHy@typexml
3786   \Hy@AtEndOfPackage{%
3787     \RequirePackage{color}%
3788     \RequirePackage{nameref}%
3789   }%
3790 \fi

3791 \Hy@DisableOption{typexml}
3792 \ifHy@implicit
3793   \typeout{Implicit mode ON; LaTeX internals redefined}%
3794 \else
3795   \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3796   \def\MaybeStopEarly{%
3797     \typeout{Hyperref stopped early}%
3798     \Hy@AtBeginDocument{%
3799       \PDF@FinishDoc
3800       \gdef\PDF@FinishDoc{}%
3801     }%
3802     \endinput
3803   }%
3804   \Hy@AtBeginDocument{%
3805     \let\autoref\ref
```

```

3806 \let\autopageref\pageref
3807 \ifx\@pdfpagemode\@empty
3808 \gdef\@pdfpagemode{UseNone}%
3809 \fi
3810 \global\Hy@backreffalse
3811 }%
3812 \Hy@AtEndOfPackage{%
3813 \global\let\ReadBookmarks\relax
3814 \global\let\WriteBookmarks\relax
3815 }%
3816 \fi
3817 \Hy@DisableOption{implicit}

```

### 15.2.1 Driver loading

```

3818 \Hy@AtEndOfPackage{%
3819 \@ifpackageloaded{tex4ht}{%
3820 \def\Hy@driver{htex4ht}%
3821 \Hy@texhttrue
3822 }{}%

```

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.

```

3823 \ifx\Hy@driver\@empty
3824 \else
3825 \def\Hy@temp{hpdfTeX}%
3826 \ifpdf
3827 \ifx\Hy@driver\Hy@temp
3828 \else
3829 \Hy@WarningNoLine{%
3830 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3831 pdfTeX is running in PDF mode.\MessageBreak
3832 Forcing driver ‘\Hy@temp.def’%
3833 }%
3834 \let\Hy@driver\Hy@temp
3835 \fi
3836 \else
3837 \ifx\Hy@driver\Hy@temp
3838 \Hy@WarningNoLine{%
3839 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3840 pdfTeX is not running in PDF mode.\MessageBreak
3841 Using default driver%
3842 }%
3843 \let\Hy@driver\@empty
3844 \fi
3845 \fi
3846 \fi
3847 \ifx\Hy@driver\@empty
3848 \else
3849 \def\Hy@temp{hXetex}%
3850 \ifxetex
3851 \ifx\Hy@driver\Hy@temp
3852 \else
3853 \Hy@WarningNoLine{%
3854 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3855 XeTeX is running.\MessageBreak
3856 Forcing driver ‘\Hy@temp.def’ for XeTeX%
3857 }%

```



```

3858     \let\Hy@driver\Hy@temp
3859     \fi
3860 \fi
3861 \fi
3862 \ifx\Hy@driver\@empty
3863 \else
3864   \def\Hy@temp{hvtexhtm}%
3865   \ifvtexhtml
3866     \ifx\Hy@driver\Hy@temp
3867     \else
3868       \Hy@WarningNoLine{%
3869         Wrong driver '\Hy@driver.def';\MessageBreak
3870         VTeX is running in HTML mode.\MessageBreak
3871         Forcing driver '\Hy@temp.def'%
3872       }%
3873     \let\Hy@driver\Hy@temp
3874     \fi
3875   \else
3876     \ifx\Hy@driver\Hy@temp
3877     \Hy@WarningNoLine{%
3878       Wrong driver '\Hy@driver.def';\MessageBreak
3879       VTeX is not running in HTML mode.\MessageBreak
3880       Using default driver%
3881     }%
3882     \let\Hy@driver\@empty
3883   \fi
3884 \fi
3885 \fi

```

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

```

3886 \ifx\Hy@driver\@empty
3887   \providecommand*{\Hy@defaultdriver}{hypertex}%
3888   \ifpdf
3889     \def\Hy@driver{hpdfTeX}%
3890   \else
3891     \ifxetex
3892       \def\Hy@driver{hxetex}%
3893     \else
3894       \ifvtexhtml
3895         \def\Hy@driver{hvtexhtm}%
3896       \def\MaybeStopEarly{%
3897         \typeout{Hyperref stopped early}%
3898         \Hy@AtBeginDocument{%
3899           \PDF@FinishDoc
3900           \gdef\PDF@FinishDoc{}%
3901         }%
3902       \endinput
3903     }%
3904   \else
3905     \ifvtexpdf
3906       \def\Hy@driver{hvtex}%
3907     \else
3908       \ifvtexps
3909         \def\Hy@driver{hvtex}%
3910       \else
3911         \let\Hy@driver\Hy@defaultdriver
3912       \fi
3913     \fi

```

```

3914     \fi
3915     \fi
3916   \fi
3917   \ifx\Hy@driver\Hy@defaultdriver
3918     \def\Hy@temp{hdvwind}%
3919     \ifx\Hy@temp\Hy@driver
3920       \setkeys{Hyp}{colorlinks}%
3921       \PassOptionsToPackage{dviwindo}{color}%
3922     \fi
3923   \fi
3924   \typeout{* hyperref using default driver \Hy@driver\ltx@space*}%
3925 \else
3926   \typeout{* hyperref using driver \Hy@driver\ltx@space*}%
3927 \fi
3928 \input{\Hy@driver.def}%
3929 \let\@unprocessedoptions\relax
3930 \Hy@RestoreCatcodes
3931 }

```

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

```

3932 \newif\ifHy@DvipdfmxOutlineOpen
3933 \ifxetex
3934   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
3935   \else
3936     \Hy@DvipdfmxOutlineOpenttrue
3937   \fi
3938 \fi
3939 \begingroup\expandafter\expandafter\expandafter\endgroup
3940 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3941 \else
3942   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3943     \Hy@DvipdfmxOutlineOpenttrue
3944   \fi
3945 \fi
3946 \Hy@DisableOption{tex4ht}
3947 \Hy@DisableOption{pdftex}
3948 \Hy@DisableOption{nativepdf}
3949 \Hy@DisableOption{dvipdfm}
3950 \Hy@DisableOption{dvipdfmx}
3951 \Hy@DisableOption{dvipdfmx-outline-open}
3952 \Hy@DisableOption{pdfmark}
3953 \Hy@DisableOption{dvips}
3954 \Hy@DisableOption{hypertex}
3955 \Hy@DisableOption{vtex}
3956 \Hy@DisableOption{vtxpdfmark}
3957 \Hy@DisableOption{dviwindo}
3958 \Hy@DisableOption{dvipsone}
3959 \Hy@DisableOption{textures}
3960 \Hy@DisableOption{latex2html}
3961 \Hy@DisableOption{ps2pdf}
3962 \Hy@DisableOption{xetex}
3963 \Hy@AtEndOfPackage{%
3964   \Hy@DisableOption{pdfversion}%
3965 }

```

### 15.2.2 Bookmarks

```

3966 \def\WriteBookmarks{0}
3967 \def\@bookmarkopenstatus#1{%
3968   \ifHy@bookmarksopen

```

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

```

3969   \ifnum#1<\expandafter\@firstofone\expandafter
3970     {\number\@bookmarkopenlevel} % explicit space
3971   \else
3972     -%
3973   \fi
3974 \else
3975   -%
3976 \fi
3977 }
3978 \ifHy@bookmarks
3979   \Hy@Info{Bookmarks ON}%
3980   \ifx\@pdfpagemode\@empty
3981     \def\@pdfpagemode{UseOutlines}%
3982   \fi
3983 \else
3984   \def\@bookmarkopenstatus#1{%
3985     \Hy@Info{Bookmarks OFF}%
3986     \Hy@AtEndOfPackage{%
3987       \global\let\ReadBookmarks\relax
3988       \global\let\WriteBookmarks\relax
3989     }%
3990     \ifx\@pdfpagemode\@empty
3991       \def\@pdfpagemode{UseNone}%
3992     \fi
3993   \fi
3994 \Hy@DisableOption{bookmarks}

```

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

```

3995 \def\Hy@CatcodeWrapper#1{%
3996   \def\Hy@EndWrap{}%
3997   \def\TMP@EnsureCode##1##2{%
3998     \edef\Hy@EndWrap{%
3999       \Hy@EndWrap
4000       \catcode##1 \the\catcode##1\relax
4001     }%
4002     \catcode##1 ##2\relax
4003   }%
4004   \TMP@EnsureCode{10}{12}% ^^J
4005   \TMP@EnsureCode{33}{12}% !
4006   \TMP@EnsureCode{34}{12}% "
4007   \TMP@EnsureCode{36}{3}% $ (math)
4008   \TMP@EnsureCode{38}{4}% & (alignment)
4009   \TMP@EnsureCode{39}{12}% '
4010   \TMP@EnsureCode{40}{12}% (
4011   \TMP@EnsureCode{41}{12}% )
4012   \TMP@EnsureCode{42}{12}% *
4013   \TMP@EnsureCode{43}{12}% +
4014   \TMP@EnsureCode{44}{12}% ,
4015   \TMP@EnsureCode{45}{12}% -
4016   \TMP@EnsureCode{46}{12}% .
4017   \TMP@EnsureCode{47}{12}% /
4018   \TMP@EnsureCode{58}{12}% :
4019   \TMP@EnsureCode{59}{12}% ;

```

```

4020 \TMP@EnsureCode{60}{12}% <
4021 \TMP@EnsureCode{61}{12}% =
4022 \TMP@EnsureCode{62}{12}% >
4023 \TMP@EnsureCode{63}{12}% ?
4024 \TMP@EnsureCode{91}{12}% [
4025 \TMP@EnsureCode{93}{12}% ]
4026 \TMP@EnsureCode{94}{7}% ^ (superscript)
4027 \TMP@EnsureCode{95}{8}% _ (subscript)
4028 \TMP@EnsureCode{96}{12}% '
4029 \TMP@EnsureCode{124}{12}% |
4030 \TMP@EnsureCode{126}{13}% ~ (active)
4031 #1\relax
4032 \Hy@endWrap
4033 }

```

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

```

4034 \Hy@AtBeginDocument{%
4035   \ifHy@ocgcolorlinks
4036     \setkeys{Hyp}{colorlinks}%
4037     \ifHy@pdfa
4038       \Hy@Warning{%
4039         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4040         using 'colorlinks' instead of 'ocgcolorlinks'%
4041       }%
4042     \Hy@ocgcolorlinksfalse
4043   \fi
4044 \fi
4045 \ifHy@ocgcolorlinks
4046 \else
4047   \Hy@DisableOption{ocgcolorlinks}%
4048 \fi
4049 \ifHy@colorlinks
4050   \def\@pdfborder{0 0 0}%
4051   \let\@pdfborderstyle\@empty
4052   \ifHy@typexml
4053   \else
4054     \Hy@CatcodeWrapper{%
4055       \RequirePackage{color}%
4056     }%
4057   \fi
4058   \def\Hy@colorlink#1{%
4059     \begingroup
4060     \HyColor@UseColor#1%
4061   }%
4062   \def\Hy@endcolorlink{\endgroup}%
4063   \Hy@Info{Link coloring ON}%
4064 \else
4065   \ifHy@frenchlinks
4066     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4067     \def\Hy@endcolorlink{\endgroup}%
4068     \Hy@Info{French linking ON}%
4069   \else

```

for grouping consistency:

```

4070   \def\Hy@colorlink#1{\begingroup}%
4071   \def\Hy@endcolorlink{\endgroup}%
4072   \Hy@Info{Link coloring OFF}%
4073 \fi

```

```

4074 \fi
4075 \Hy@DisableOption{colorlinks}%
4076 \Hy@DisableOption{frenchlinks}%
4077 \ifHy@texht
4078 \long\def\@firstoffive#1#2#3#4#5{#1}%
4079 \long\def\@secondoffive#1#2#3#4#5{#2}%
4080 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4081 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4082 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4083 \providecommand*\@safe@activestruet{}%
4084 \providecommand*\@safe@activesfalse{}%
4085 \def\T@ref#1{%
4086   \Hy@safe@activestruet
4087   \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4088   \Hy@safe@activesfalse
4089 }%
4090 \def\T@pageref#1{%
4091   \Hy@safe@activestruet
4092   \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4093   \Hy@safe@activesfalse
4094 }%
4095 \else
4096 \ifHy@typexml
4097 \else
4098   \Hy@CatcodeWrapper{%
4099     \RequirePackage{nameref}%
4100   }%
4101 \fi
4102 \fi
4103 \DeclareRobustCommand\ref{%
4104   \@ifstar\@refstar\T@ref
4105 }%
4106 \DeclareRobustCommand\pageref{%
4107   \@ifstar\@pagerefstar\T@pageref
4108 }%
4109 % \ifclassloaded{memoir}{%
4110 %   \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4111 %     \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4112 %   }%
4113 % } \ltx@secondoftwo
4114 % {%
4115 %   \DeclareRobustCommand*\{ \nameref }{%
4116 %     \@ifstar\@mem@titlerefno link\@mem@titleref
4117 %   }%
4118 % }{%
4119   \DeclareRobustCommand*\{ \nameref }{%
4120     \@ifstar\@namerefstar\T@nameref
4121   }%
4122 % }%
4123 }
4124 \Hy@AtBeginDocument{%
4125 \ifHy@texht
4126 \else
4127   \Hy@CatcodeWrapper{%
4128     \ReadBookmarks
4129   }%
4130 \fi

```

```

4131 }
4132 \ifHy@backref
4133   \RequirePackage{backref}%
4134 \else
4135   \let\Hy@backout\@gobble
4136 \fi
4137 \Hy@DisableOption{backref}
4138 \Hy@DisableOption{pagebackref}
4139 \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.

```

4140 \begingroup
4141   \endlinechar=-1 %
4142   \catcode'\^^A=14 %
4143   \catcode'\^^M\active
4144   \catcode'\%\active
4145   \catcode'\#\active
4146   \catcode'\_\active
4147   \catcode'\$\active
4148   \catcode'\&\active
4149   \gdef\hyper@normalise{^^A
4150     \begingroup
4151       \catcode'\^^M\active
4152       \def^^M{ }^^A
4153       \catcode'\%\active
4154       \let%\@percentchar
4155       \let\%\@percentchar
4156       \catcode'\#\active
4157       \def#{\hyper@hash}^^A
4158       \def\#{\hyper@hash}^^A
4159       \@makeother\&^^A
4160       \edef&{\string&}^^A
4161       \edef&{\string&}^^A
4162       \edef\textunderscore{\string_}^^A
4163       \let_\textunderscore
4164       \catcode'\_\active
4165       \let_\textunderscore
4166       \let~\hyper@tilde
4167       \let~\hyper@tilde
4168       \let\textasciitilde\hyper@tilde
4169       \let\\ \@backslashchar
4170       \edef${\string$}^^A
4171       \Hy@safe@activetrue
4172       \hyper@n@rmalise
4173     }^^A
4174     \catcode'\#=6 ^^A
4175     \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4176     \gdef\hyper@n@rmalise#1#2{^^A
4177       \def\Hy@tempa{#2}^^A

```

```

4178 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4179 \Hy@ReturnAfterElseFi{^^A
4180 \hyper@@normalise{#1}^^A
4181 }^^A
4182 \else
4183 \Hy@ReturnAfterFi{^^A
4184 \hyper@@normalise{#1}{#2}^^A
4185 }^^A
4186 \fi
4187 }^^A
4188 \gdef\hyper@@normalise#1#2{^^A
4189 \edef\Hy@tempa{^^A
4190 \endgroup
4191 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4192 }^^A
4193 \Hy@tempa
4194 }^^A
4195 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4196 #1^^A
4197 \ifx\limits#2\limits
4198 \else
4199 \Hy@ReturnAfterFi{^^A
4200 \Hy@RemovePercentCr #2\@nil
4201 }^^A
4202 \fi
4203 }^^A
4204 \endgroup
4205 \providecommand*\hyper@chars{%
4206 \let\#\hyper@hash
4207 \let\%\@percentchar
4208 \Hy@safe@activetrue
4209 }

4210 \def\hyperlink#1#2{%
4211 \hyper@@link{#1}{#2}%
4212 }

4213 \def\Hy@VerboseLinkStart#1#2{%
4214 \ifHy@verbose
4215 \begingroup
4216 \Hy@safe@activetrue
4217 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4218 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4219 \xdef\Hy@VerboseGlobalTemp{%
4220 \Hy@VerboseGlobalTemp, %
4221 line \the\inputlineno
4222 }%
4223 \endgroup
4224 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4225 \@onelevel@sanitize\Hy@VerboseLinkInfo
4226 \fi
4227 }

4228 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4229 \def\Hy@VerboseLinkStop{%
4230 \ifHy@verbose
4231 \begingroup
4232 \edef\x{\endgroup
4233 \write\m@ne{%

```

```

4234      Package 'hyperref' Info: %
4235      End of reference \Hy@VerboseLinkInfo.%
4236    }%
4237  }%
4238  \x
4239  \fi
4240 }

4241 \def\Hy@VerboseAnchor#1{%
4242   \ifHy@verbose
4243     \begingroup
4244       \Hy@safe@activetrue
4245       \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4246     \endgroup
4247   \fi
4248 }

4249 \def\Hy@AllowHyphens{%
4250   \relax
4251   \ifhmode
4252     \penalty\@M
4253     \hskip\z@skip
4254   \fi
4255 }

4256 \DeclareRobustCommand*\href{%
4257   \@ifnextchar\bggroup\Hy@href{\hyper@normalise\href}%
4258 }
4259 \def\Hy@href#1{%
4260   \hyper@normalise\href@
4261 }
4262 \begingroup
4263   \catcode'\$=6 %
4264   \catcode'\#=12 %
4265   \gdef\href@#1{\expandafter\href@split$1##\}%
4266   \gdef\href@split$1#2#3\{%
4267     \hyper@@link{#1}{#2}%
4268   }%
4269 \endgroup

```

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

```

4270 \RequirePackage{url}
4271 \let\HyOrg@url\url
4272 \def\Hurl{\begingroup \Url}
4273 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4274 \def\nolinkurl@#1{\Hurl{#1}}
4275 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4276 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4277 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4278 \providecommand\hyper@image[2]{#2}

4279 \def\hypertarget#1#2{%
4280   \ifHy@nesting
4281     \hyper@@anchor{#1}{#2}%
4282   \else
4283     \hyper@@anchor{#1}{\relax}#2%
4284   \fi
4285 }

```

\hyperref is more complicated, as it includes the concept of a category of link, used to make the name. This is not really used in this package. \hyperdef sets up an anchor in



the same way. They each have three parameters of category, linkname, and marked text, and `\hyperref` also has a first parameter of URL. If there is an optional first parameter to `\hyperdef`, it is the name of a L<sup>A</sup>T<sub>E</sub>X label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

4286 \DeclareRobustCommand*{\hyperref}{%
4287   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
4288 }
4289 \def\Hy@babelnormalise#1[#2]{%
4290   \begingroup
4291     \Hy@safe@activetrue
4292     \edef\Hy@tempa{%
4293       \endgroup
4294       \noexpand#1[#2]}%
4295   }%
4296   \Hy@tempa
4297 }
4298 \def\@hyperref{\hyper@normalise\@hyperref}
4299 \def\@hyperref#1#2#3{%
4300   \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
4301   \expandafter\tryhyper@link\ref@one\{#1}%
4302 }
4303 \def\tryhyper@link#1\#2{%
4304   \hyper@@link{#2}{#1}%
4305 }
4306 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}
4307 \def\@hyperdef#1#2#3{%, category, name, text
4308   \ifx\#1\%
4309     \def\Hy@AnchorName{#2}%
4310   \else
4311     \def\Hy@AnchorName{#1.#2}%
4312   \fi
4313   \ifHy@nesting
4314     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4315   \else
4316     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4317   \fi
4318 }

```

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.

```

4319 \def\label@hyperref[#1]{%
4320   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4321 }%
4322 \def\label@@hyperref#1#2#3{%
4323   \ifx#1\relax
4324     \protect\G@refundefinedtrue
4325     \@latex@warning{%
4326       Hyper reference ‘#2’ on page \thepage \space undefined%
4327     }%
4328     \hyper@@link{}{??}{#3}%
4329   \else
4330     \hyper@@link{\expandafter\@fifthoffive#1}%
4331     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4332   \fi
4333 }
4334 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4335                               % anchor text

```

```

4336 \@bspack
4337 \ifx\#2\%
4338 \def\Hy@AnchorName{#3}%
4339 \else
4340 \def\Hy@AnchorName{#2.#3}%
4341 \fi
4342 \if@files
4343 \protected@write\@auxout{}\{
4344 \string\newlabel{#1}\{ \} \} {\Hy@AnchorName}\}%
4345 \}%
4346 \fi
4347 \@espack
4348 \ifHy@nesting
4349 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4350 \else
4351 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
4352 \fi
4353 }

```

## 17 Underlying basic hypertext macros

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

```

4354 \def\hyper@@link{\let\Hy@reserved@a\relax
4355 \@ifnextchar[\hyper@link@]{\hyper@link@[link]}\}%
4356 }
4357 \def\hyper@link@[#1]#2#3#4{%
4358 \begingroup
4359 \protected@edef\Hy@tempa{#2}%
4360 \Hy@safe@activestrue
4361 \edef\x{#3}%
4362 \ifx\Hy@tempa\@empty
4363 \toks0{\hyper@link{#1}}%
4364 \else
4365 \toks0{\expandafter\hyper@readexternallink#2\{ \{#1\}}%
4366 \fi
4367 \toks2{%
4368 \Hy@safe@activesfalse
4369 #4%
4370 }%
4371 \edef\Hy@tempa{\the\toks2}%
4372 \edef\x{\endgroup
4373 \ifx\Hy@tempa\@empty
4374 \noexpand\Hy@Warning{Suppressing empty link}%
4375 \else
4376 \the\toks0 {\x}{\the\toks2}}%
4377 \fi
4378 }%
4379 \x
4380 }

```

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.

```
4381 \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.

```
4382 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\|#1}%
4383 }
```

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

```
4384 \def\@pdftempwordfile{file}%
4385 \def\@pdftempwordrun{run}%
4386 \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:

```
4387 \ifx\|#6\|
4388 \expandafter\@hyper@linkfile file:#7\|#3}{#2}%
4389 \else
4390 \ifx\|#4\|
4391 \expandafter\@hyper@linkfile file:#7\|#3}{#2}%
4392 \else
```

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

```
4393 \def\@pdftempa{#4}%
4394 \ifx\@pdftempa\@pdftempwordfile
4395 \expandafter\@hyper@linkfile#7\|#3}{#2}%
4396 \else
```

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

```
4397 \ifx\@pdftempa\@pdftempwordrun
4398 \ifHy@pdfa
4399 \PackageError{hyperref}{%
4400 PDF/A: Launch action is prohibited%
4401 }\@ehc
4402 \begingroup
4403 \leavevmode
4404 #2%
4405 \endgroup
4406 \else
4407 \expandafter\@hyper@launch#7\|#3}{#2}%
4408 \fi
4409 \else
```

otherwise its a URL

```
4410 \hyper@linkurl{#3}{#7\ifx\|#2\|\else\hyper@hash#2\fi}%
4411 \fi
```

```

4412 \fi
4413 \fi
4414 \fi
4415 }

```

By default, turn run: into file:

```

4416 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text, linkname
4417 \hyper@linkurl{#2}{%
4418 \Hy@linkfileprefix
4419 #1%
4420 \ifx\|#3\|%
4421 \else
4422 \hyper@hash
4423 #3%
4424 \fi
4425 }%
4426 }

```

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

```

4427 \def\@hyper@linkfile file:#1\|#2#3{%
4428 %file url,link string, name
4429 \filename@parse{#1}%
4430 \ifx\filename@ext\relax
4431 \edef\filename@ext{\XR@ext}%
4432 \fi
4433 \def\use@file{\filename@area\filename@base.\filename@ext}%
4434 \Hy@IfStringEndsWith\filename@ext\XR@ext{%
4435 \hyper@linkfile{#2}{\use@file}{#3}%
4436 }{%
4437 \ifx\@baseurl\@empty
4438 \hyper@linkurl{#2}{%
4439 \Hy@linkfileprefix\use@file\ifx\|#3\|\\else\hyper@hash#3\fi
4440 }%
4441 \else
4442 \hyper@linkurl{#2}{\use@file\ifx\|#3\|\\else\hyper@hash#3\fi}%
4443 \fi
4444 }%
4445 }

4446 \def\Hy@IfStringEndsWith#1#2{%
4447 \begingroup
4448 \edef\x{#1}%
4449 \@onelevel@sanitize\x
4450 \edef\x{.\x$}%
4451 \edef\y{#2}%
4452 \@onelevel@sanitize\y
4453 \edef\y{.\y$}%
4454 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
4455 \endgroup
4456 \ifx\relax##2\relax
4457 \expandafter\ltx@secondoftwo
4458 \else
4459 \expandafter\ltx@firstoftwo
4460 \fi
4461 }%
4462 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
4463 }

```

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.

```

4464 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
4465 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
4466   \ifx\#1\%
4467     #2\Hy@Warning{Ignoring empty anchor}%
4468   \else
4469     \def\anchor@spot{#2#3}%
4470     \let\put@me@back\@empty
4471     \ifx\relax#2\relax
4472     \else
4473       \ifHy@nesting
4474       \else
4475         \ifcat a\noexpand#2\relax
4476         \else
4477           \ifcat 0\noexpand#2 \relax
4478           \else
4479             \typeout{Anchor start is not alphanumeric %
4480             on input line\the\inputlineno%
4481             }%
4482             \let\anchor@spot\@empty
4483             \def\put@me@back{#2#3}%
4484           \fi
4485         \fi
4486       \fi
4487     \fi
4488     \ifHy@activeanchor
4489       \anchor@spot
4490     \else
4491       \hyper@anchor{#1}%
4492     \fi
4493     \expandafter\put@me@back
4494   \fi
4495   \let\anchor@spot\@empty
4496 }

```

## 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.

```

4497 \let\htmladding\hyperimage
4498 \def\htmladdnormallink#1#2{\href{#2}{#1}}
4499 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
4500 \def\htmlref#1#2{% anchor text, label
4501   \label@hyperref{#2}{#1}%
4502 }

```

This is really too much. The  $\LaTeX$ 2html package defines its own `\hyperref` command, with a different syntax. Was this always here? Its weird, anyway. We interpret it in the ‘printed’ way, since we are about fidelity to the page.

```

4503 \def\@latex2htmlX{%
4504   \let\hhyperref\hyperref
4505   \def\hyperref##1##2##3##4{% anchor text for HTML
4506     % text to print before label in print
4507     % label
4508     % post-label text in print
4509     ##2\ref{##4}##3%
4510   }%
4511 }
```

## 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.

```
4512 \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
4513 \def\HyField@NewFlag#1#2{%
4514   \lowercase{\HyField@NewOption{#2}}%
4515   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4516 }
```

```

\HyField@NewFlagOnly
4517 \def\HyField@NewFlagOnly#1#2{%
4518   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4519 }
```

```

\HyField@NewOption #1: option name
4520 \def\HyField@NewOption#1{%
4521   \expandafter\newif\csname ifFld@#1\endcsname
4522   \define@key{Field}{#1}[true]{%
4523     \lowercase{\Field@boolkey{##1}}{#1}%
4524   }%
4525 }
```

```

\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

```
4526 \def\HyField@NewBitsetFlag#1#2#3#4{%
4527   \begingroup
4528   \count@=#4\relax
4529   \advance\count@\m@ne
4530   \def\x##1{%
4531     \endgroup
4532     \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
4533     \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
4534       \expandafter\edef\csname HyField@#3@##1\endcsname{%
4535         (\number#4) #2%
4536       }%
4537     \else
4538       \expandafter\edef\csname HyField@#3@##1\endcsname{%
4539         \csname HyField@#3@##1\endcsname
4540         /#2%
4541       }%
4542     \fi
4543   }%
4544   \expandafter\x\expandafter{\the\count@}%
4545 }
```

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

```
4546 \def\HyField@UseFlag#1#2{%
4547   \lowercase{\HyField@@UseFlag{#2}}{#1}%
4548 }
```

\HyField@@UseFlag

```
4549 \def\HyField@@UseFlag#1#2{%
4550   \bitsetSetValue{HyField@#2}{%
4551     \csname HyField@#2@#1\endcsname
4552   }{%
4553     \csname ifFld@#1\endcsname 1\else 0\fi
4554   }%
4555 }
```

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

```
4556 \def\HyField@SetFlag#1#2{%
4557   \lowercase{\HyField@@SetFlag{#2}}{#1}%
4558 }
```

\HyField@@SetFlag

```
4559 \def\HyField@@SetFlag#1#2{%
4560   \bitsetSetValue{HyField@#2}{%
4561     \csname HyField@#2@#1\endcsname
4562   }{1}%
4563 }
```

\HyField@PrintFlags

```
4564 \def\HyField@PrintFlags#1#2{%
4565   \ifHy@verbose
4566     \begingroup
4567     \let\Hy@temp\@empty
4568     \let\MessageBreak\relax
4569     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
```

```

4570 \bitsetGetSetBitList{HyField@#1}\do{%
4571 \edef\Hy@temp{%
4572 \Hy@temp
4573 \csname HyField@#1@\x\endcsname\MessageBreak
4574 }%
4575 }%
4576 \edef\x{\endgroup
4577 \noexpand\Hy@Info{%
4578 Field flags: %
4579 \expandafter\ifx\@car#1\@nil S\else/\fi
4580 #1 %
4581 \bitsetGetDec{HyField@#1} %
4582 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
4583 \Hy@temp
4584 for #2%
4585 }%
4586 }\x
4587 \fi
4588 }

```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

4589 \HyField@NewFlag{Ff}{ReadOnly}{1}
4590 \HyField@NewFlag{Ff}{Required}{2}
4591 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

4592 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
4593 \HyField@NewFlag{Ff}{Radio}{16}
4594 \HyField@NewFlag{Ff}{Pushbutton}{17}
4595 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

4596 \HyField@NewFlag{Ff}{Multiline}{13}
4597 \HyField@NewFlag{Ff}{Password}{14}
4598 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
4599 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4600 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
4601 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
4602 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

4603 \HyField@NewFlag{Ff}{Combo}{18}
4604 \HyField@NewFlag{Ff}{Edit}{19}
4605 \HyField@NewFlag{Ff}{Sort}{20}
4606 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
4607 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4608 \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.

```

4609 \newif\ifFld@popdown
4610 \define@key{Field}{popdown}[true]{%
4611 \lowercase{\Field@boolkey{#1}}{popdown}%
4612 }

```



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.

```

4613 \HyField@NewFlag{F}{Invisible}{1}
4614 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
4615 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
4616 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
4617 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
4618 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
4619 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
4620 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
4621 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

4622 \ifHy@pdfa
4623   \def\HyField@PDFAFflagWarning#1#2{%
4624     \Hy@Warning{%
4625       PDF/A: Annotation flag '#1' must\MessageBreak
4626       be set to '#2'%
4627     }%
4628   }%
4629   \Fld@invisiblefalse
4630   \def\Fld@invisibletrue{%
4631     \HyField@PDFAFflagWarning{invisible}{false}%
4632   }%
4633   \Fld@hiddenfalse
4634   \def\Fld@hiddenttrue{%
4635     \HyField@PDFAFflagWarning{hidden}{false}%
4636   }%
4637   \Fld@printtrue
4638   \def\Fld@printfalse{%
4639     \HyField@PDFAFflagWarning{print}{true}%
4640   }%
4641   \Fld@nozoomtrue
4642   \def\Fld@nozoomfalse{%
4643     \HyField@PDFAFflagWarning{nozoom}{true}%
4644   }%
4645   \Fld@norotatetrue
4646   \def\Fld@norotatefalse{%
4647     \HyField@PDFAFflagWarning{norotate}{true}%
4648   }%
4649   \Fld@noviewfalse
4650   \def\Fld@noviewtrue{%
4651     \HyField@PDFAFflagWarning{noview}{false}%
4652   }%
4653 \fi

```

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

```

4654 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
4655 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
4656 \HyField@NewFlag{Submit}{GetMethod}{4}
4657 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
4658 \HyField@NewFlagOnly{Submit}{XFDF}{6}
4659 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
4660 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
4661 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
4662 \HyField@NewFlag{Submit}{CanonicalFormat}{10}

```

```

4663 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
4664 \HyField@NewFlag{Submit}{ExclFKey}{12}
4665 \HyField@NewFlag{Submit}{EmbedForm}{14}

4666 \define@key{Field}{export}{%
4667   \lowercase{\def\Hy@temp{#1}}%
4668   \@ifundefined{Fld@export@\Hy@temp}{%
4669     \@onelevel@sanitize\Hy@temp
4670     \PackageError{hyperref}{%
4671       Unknown export format '\Hy@temp'.\MessageBreak
4672       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
4673     }\@ehc
4674   }{%
4675     \let\Fld@export\Hy@temp
4676   }%
4677 }
4678 \def\Fld@export{fdf}
4679 \@namedef{Fld@export@fdf}{0}%
4680 \@namedef{Fld@export@html}{1}%
4681 \@namedef{Fld@export@xfdf}{2}%
4682 \@namedef{Fld@export@pdf}{3}%

```

### 19.1.2 Set submit flags

\HyField@FlagsSubmit

```

4683 \def\HyField@FlagsSubmit{%
4684   \bitsetReset{HyField@Submit}%
4685   \ifcase\@nameuse{Fld@export@\Fld@export} %
4686     % FDF
4687     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4688     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4689     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
4690     \HyField@UseFlag{Submit}{IncludeAnnotations}%
4691     \HyField@UseFlag{Submit}{CanonicalFormat}%
4692     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
4693     \HyField@UseFlag{Submit}{ExclFKey}%
4694     \HyField@UseFlag{Submit}{EmbedForm}%
4695   \or % HTML
4696     \HyField@SetFlag{Submit}{ExportFormat}%
4697     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4698     \HyField@UseFlag{Submit}{GetMethod}%
4699     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4700     \HyField@UseFlag{Submit}{CanonicalFormat}%
4701   \or % XFDF
4702     \HyField@SetFlag{Submit}{XFDF}%
4703     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4704     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4705     \HyField@UseFlag{Submit}{CanonicalFormat}%
4706   \or % PDF
4707     \HyField@SetFlag{Submit}{SubmitPDF}%
4708     \HyField@UseFlag{Submit}{GetMethod}%
4709   \fi
4710   \HyField@PrintFlags{Submit}{submit button field}%
4711   \bitsetIsEmpty{HyField@Submit}{%
4712     \def\Fld@submitflags{%
4713     }{%
4714       \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
4715     }%

```

4716 }

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```
4717 \def\HyField@FlagsAnnot#1{%
4718   \bitsetReset{HyField@F}%
4719   \HyField@UseFlag{F}{Invisible}%
4720   \HyField@UseFlag{F}{Hidden}%
4721   \HyField@UseFlag{F}{Print}%
4722   \HyField@UseFlag{F}{NoZoom}%
4723   \HyField@UseFlag{F}{NoRotate}%
4724   \HyField@UseFlag{F}{NoView}%
4725   \HyField@UseFlag{F}{Locked}%
4726   \HyField@UseFlag{F}{ToggleNoView}%
4727   \HyField@UseFlag{F}{LockedContents}%
4728   \HyField@PrintFlags{F}{#1}%
4729   \bitsetIsEmpty{HyField@F}{%
4730     \def\Fld@annotflags{%
4731     }{%
4732       \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
4733   }%
4734 }
```

### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```
4735 \def\HyField@FlagsPushButton{%
4736   \HyField@FlagsAnnot{push button field}%
4737   \bitsetReset{HyField@Ff}%
4738   \HyField@UseFlag{Ff}{ReadOnly}%
4739   \HyField@UseFlag{Ff}{Required}%
4740   \HyField@UseFlag{Ff}{NoExport}%
4741   \HyField@SetFlag{Ff}{Pushbutton}%
4742   \HyField@PrintFlags{Ff}{push button field}%
4743   \bitsetIsEmpty{HyField@Ff}{%
4744     \def\Fld@flags{%
4745     }{%
4746       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4747   }%
4748 }
```

### 19.1.5 Check box field

\HyField@FlagsCheckBox

```
4749 \def\HyField@FlagsCheckBox{%
4750   \HyField@FlagsAnnot{check box field}%
4751   \bitsetReset{HyField@Ff}%
4752   \HyField@UseFlag{Ff}{ReadOnly}%
4753   \HyField@UseFlag{Ff}{Required}%
4754   \HyField@UseFlag{Ff}{NoExport}%
4755   \HyField@PrintFlags{Ff}{check box field}%
4756   \bitsetIsEmpty{HyField@Ff}{%
4757     \def\Fld@flags{%
4758     }{%
4759       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4759 }
```

```

4760 }%
4761 }

```

### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```

4762 \def\HyField@FlagsRadioButton{%
4763   \HyField@FlagsAnnot{radio button field}%
4764   \bitsetReset{HyField@Ff}%
4765   \HyField@UseFlag{Ff}{ReadOnly}%
4766   \HyField@UseFlag{Ff}{Required}%
4767   \HyField@UseFlag{Ff}{NoExport}%
4768   \HyField@UseFlag{Ff}{NoToggleToOff}%
4769   \HyField@SetFlag{Ff}{Radio}%
4770   \HyField@UseFlag{Ff}{RadiosInUnison}%
4771   \HyField@PrintFlags{Ff}{radio button field}%
4772   \bitsetIsEmpty{HyField@Ff}{%
4773     \def\Fld@flags{}}%
4774   }{%
4775     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4776   }%
4777 }

```

### 19.1.7 Text fields

\HyField@FlagsText

```

4778 \def\HyField@FlagsText{%
4779   \HyField@FlagsAnnot{text field}%
4780   \bitsetReset{HyField@Ff}%
4781   \HyField@UseFlag{Ff}{ReadOnly}%
4782   \HyField@UseFlag{Ff}{Required}%
4783   \HyField@UseFlag{Ff}{NoExport}%
4784   \HyField@UseFlag{Ff}{Multiline}%
4785   \HyField@UseFlag{Ff}{Password}%
4786   \HyField@UseFlag{Ff}{FileSelect}%
4787   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4788   \HyField@UseFlag{Ff}{DoNotScroll}%
4789   \ifFld@comb
4790     \ifcase0\ifFld@multiline
4791       \else\ifFld@password
4792       \else\ifFld@fileselect
4793       \else 1\fi\fi\fi\relax
4794     \PackageError{hyperref}{%
4795       Field option ‘comb’ cannot used together with\MessageBreak
4796       ‘multiline’, ‘password’, or ‘fileselect’%
4797     }\@ehc
4798   \else
4799     \HyField@UseFlag{Ff}{Comb}%
4800   \fi
4801 \fi
4802 \HyField@UseFlag{Ff}{RichText}%
4803 \HyField@PrintFlags{Ff}{text field}%
4804 \bitsetIsEmpty{HyField@Ff}{%
4805   \def\Fld@flags{}}%
4806 }{%
4807   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%

```

```

4808 }%
4809 }

```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```

4810 \def\HyField@FlagsChoice{%
4811   \HyField@FlagsAnnot{choice field}%
4812   \bitsetReset{HyField@Ff}%
4813   \HyField@UseFlag{Ff}{ReadOnly}%
4814   \HyField@UseFlag{Ff}{Required}%
4815   \HyField@UseFlag{Ff}{NoExport}%
4816   \HyField@UseFlag{Ff}{Combo}%
4817   \ifFld@combo
4818     \HyField@UseFlag{Ff}{Edit}%
4819   \fi
4820   \HyField@UseFlag{Ff}{Sort}%
4821   \HyField@UseFlag{Ff}{MultiSelect}%
4822   \ifFld@combo
4823     \ifFld@edit
4824       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4825     \fi
4826   \fi
4827   \HyField@UseFlag{Ff}{CommitOnSelChange}%
4828   \HyField@PrintFlags{Ff}{choice field}%
4829   \bitsetIsEmpty{HyField@Ff}{%
4830     \def\Fld@flags{%
4831     }{%
4832     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4833   }%
4834 }

```

## 19.2 Choice field

\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.

```

4835 \def\HyField@PDFChoices#1{%
4836   \begingroup
4837   \gdef\Fld@choices{%
4838     \def\HyTmp@optlist{%
4839       \let\HyTmp@optitem\relax
4840       \count@=0 %
4841       \kv@parse{#1}{%
4842         \Hy@pdfstringdef\kv@key\kv@key
4843         \ifx\kv@value\relax
4844           \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4845             \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4846           \else
4847             \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4848           \fi
4849         \else
4850           \Hy@pdfstringdef\kv@value\kv@value
4851           \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
4852         \fi
4853       \edef\HyTmp@optlist{%

```

```

4854 \HyTmp@optlist
4855 \HyTmp@optitem{\the\count@}{\kv@key}0%
4856 }%
4857 \advance\count@ by 1 %
4858 \@gobbletwo
4859 }%
4860 \xdef\Fld@choices{/Opt[\Fld@choices]}%
4861 \ifFld@multiselect
4862 \HyField@@PDFChoices{DV}\Fld@default
4863 \HyField@@PDFChoices{V}\Fld@value
4864 \else
4865 \ifx\Fld@default\relax
4866 \else
4867 \pdfstringdef\Hy@gtmp\Fld@default
4868 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtmp)}%
4869 \fi
4870 \ifx\Fld@value\relax
4871 \else
4872 \pdfstringdef\Hy@gtmp\Fld@value
4873 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtmp)}%
4874 \fi
4875 \fi
4876 \endgroup
4877 }

```

\HyField@@PDFChoices

```

4878 \def\HyField@@PDFChoices#1#2{%
4879 \ifx#2\relax
4880 \else
4881 \count@=0 %
4882 \def\HyTmp@optitem##1##2##3{%
4883 \def\HyTmp@key{##2}%
4884 \ifx\HyTmp@key\Hy@gtmp
4885 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4886 \HyTmp@optlist
4887 \HyTmp@optitem{##1}{##2}1%
4888 }%
4889 \let\HyTmp@found=Y%
4890 \else
4891 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4892 \HyTmp@optlist
4893 \HyTmp@optitem{##1}{##2}##3%
4894 }%
4895 \fi
4896 }%
4897 \expandafter\comma@parse\expandafter{#2}{%
4898 \pdfstringdef\Hy@gtmp\comma@entry
4899 \let\HyTmp@found=N %
4900 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4901 \HyTmp@optlist
4902 \ifx\HyTmp@found Y%
4903 \advance\count@ by 1 %
4904 \else
4905 \@onelevel@sanitize\comma@entry
4906 \PackageWarning{hyperref}{%
4907 \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
4908 \MessageBreak

```

```

4909         it cannot be found in the choices%
4910     }%
4911 \fi
4912 \@gobble
4913 }%
4914 \def\HyTmp@optitem##1##2##3{%
4915     \ifnum##3=1 %
4916         (##2)%
4917     \fi
4918 }%
4919 \ifcase\count@
4920 \or
4921     \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4922 \else
4923     \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4924 \ifx#1V%
4925     \def\HyTmp@optitem##1##2##3{%
4926         \ifnum##3=1 %
4927             \@firstofone{ ##1}%
4928         \fi
4929     }%
4930 \edef\HyTmp@optlist{\HyTmp@optlist}%
4931 \xdef\Fld@choices{%
4932     \Fld@choices
4933     /I[\expandafter\@firstofone\HyTmp@optlist]%
4934 }%
4935 \fi
4936 \fi
4937 \fi
4938 }

```

### 19.3 Forms

\HyField@SetKeys

```

4939 \def\HyField@SetKeys{%
4940     \setkeys{Field}%
4941 }

4942 \newif\ifFld@checked
4943 \newif\ifFld@disabled
4944 \Fld@checkedfalse
4945 \Fld@disabledfalse
4946 \newcount\Fld@menulength
4947 \newdimen\Fld@Width
4948 \newdimen\Fld@charsize
4949 \Fld@charsize=10\p@
4950 \def\Fld@maxlen{0}
4951 \def\Fld@align{0}
4952 \def\Fld@color{0 0 0 rg}
4953 \def\Fld@bcolor{1 1 1}
4954 \def\Fld@bordercolor{1 0 0}
4955 \def\Fld@bordersep{1\p@}
4956 \def\Fld@borderwidth{1}
4957 \def\Fld@borderstyle{S}
4958 \def\Fld@cbsymbol{4}
4959 \def\Fld@radiosymbol{H}
4960 \def\Fld@rotation{0}

```

```

4961 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4962 \def\endForm{\@endForm}
4963 \newif\ifForm@html
4964 \Form@htmlfalse
4965 \def\Form@boolkey#1#2{%
4966   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4967 }
4968 \define@key{Form}{action}{%
4969   \hyper@normalise\Hy@DefFormAction{#1}%
4970 }
4971 \def\Hy@DefFormAction{\def\Form@action}
4972 \def\enc@html{html}
4973 \define@key{Form}{encoding}{%
4974   \def\Hy@tempa{#1}%
4975   \ifx\Hy@tempa\enc@html
4976     \Form@htmltrue
4977     \def\Fld@export{html}%
4978   \else
4979     \Hy@Warning{%
4980       Form 'encoding' key with \MessageBreak
4981       unknown value '#1'%
4982     }%
4983     \Form@htmlfalse
4984   \fi
4985 }
4986 \define@key{Form}{method}{%
4987   \lowercase{\def\Hy@temp{#1}}%
4988   \@ifundefined{Form@method@\Hy@temp}{%
4989     \@onelevel@sanitize\Hy@temp
4990     \PackageError{hyperref}{%
4991       Unknown method '\Hy@temp'.\MessageBreak
4992       Known values are 'post' and 'get'%
4993     }\@ehc
4994   }{%
4995     \let\Form@method\Hy@temp
4996     \ifcase\@nameuse{Form@method@\Hy@temp} %
4997       \Fld@getmethodfalse
4998     \else
4999       \Fld@getmethodtrue
5000     \fi
5001   }%
5002 }
5003 \def\Form@method{}
5004 \@namedef{Form@method@post}{0}
5005 \@namedef{Form@method@get}{1}
5006 \def\Fld@boolkey#1#2{%
5007   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5008 }
5009 \newtoks\Fld@toks
5010 \Fld@toks={ }%
5011 \def\Fld@addtoks#1#2{%
5012   \edef\@processme{\Fld@toks{\the\Fld@toks\space #1="#2"}}%
5013   \@processme
5014 }
5015 \def\Fld@checkequals#1=#2=#3\\{%
5016   \def\@currDisplay{#1}%
5017   \ifx\\#2\\%

```



```

5018 \def\@currValue{#1}%
5019 \else
5020 \def\@currValue{#2}%
5021 \fi
5022 }
5023 \define@key{Field}{loc}{%
5024 \def\Fld@loc{#1}%
5025 }
5026 \define@key{Field}{checked}[true]{%
5027 \lowercase{\Field@boolkey{#1}}{checked}%
5028 }
5029 \define@key{Field}{disabled}[true]{%
5030 \lowercase{\Field@boolkey{#1}}{disabled}%
5031 }
5032 \define@key{Field}{accesskey}{%
5033 \Field@addtoks{accesskey}{#1}%
5034 }
5035 \define@key{Field}{tabkey}{%
5036 \Field@addtoks{tabkey}{#1}%
5037 }
5038 \define@key{Field}{name}{%
5039 \def\Fld@name{#1}%
5040 }
5041 \define@key{Field}{width}{%
5042 \def\Fld@width{#1}%
5043 \Field@Width#1\setbox0=\hbox{m}%
5044 }
5045 \define@key{Field}{maxlen}{%
5046 \def\Fld@maxlen{#1}%
5047 }
5048 \define@key{Field}{menulength}{%
5049 \Fld@menulength=#1\relax
5050 }
5051 \define@key{Field}{height}{%
5052 \def\Fld@height{#1}%
5053 }
5054 \define@key{Field}{charsize}{%
5055 \Fld@charsize#1%
5056 }
5057 \define@key{Field}{borderwidth}{%
5058 \def\Fld@borderwidth{#1}%
5059 }
5060 \define@key{Field}{borderstyle}{%
5061 \def\Fld@borderstyle{#1}%
5062 }
5063 \define@key{Field}{bordersep}{%
5064 \def\Fld@bordersep{#1}%
5065 }
5066 \define@key{Field}{default}{%
5067 \def\Fld@default{#1}%
5068 }
5069 \define@key{Field}{align}{%
5070 \def\Fld@align{#1}%
5071 }
5072 \define@key{Field}{value}{%
5073 \def\Fld@value{#1}%
5074 }

```

```

5075 \define@key{Field}{checkboxsymbol}{%
5076   \Fld@DingDef\Fld@cbsymbol{#1}%
5077 }
5078 \define@key{Field}{radiosymbol}{%
5079   \Fld@DingDef\Fld@radiosymbol{#1}%
5080 }
5081 \def\Fld@DingDef#1#2{%
5082   \def\Fld@temp{}%
5083   \Fld@@DingDef#2\ding{}\@nil
5084   \let#1\Fld@temp
5085 }
5086 \def\Fld@@DingDef#1\ding#2#3\@nil{%
5087   \expandafter\def\expandafter\Fld@temp\expandafter{%
5088     \Fld@temp
5089     #1%
5090   }%
5091   \ifx\#3\%
5092     \expandafter\@gobble
5093   \else
5094     \begingroup
5095       \lccode'0=#2\relax
5096       \lowercase{\endgroup
5097       \expandafter\def\expandafter\Fld@temp\expandafter{%
5098         \Fld@temp
5099         0%
5100       }%
5101       }%
5102     \expandafter\@firstofone
5103   \fi
5104   {%
5105     \Fld@@DingDef#3\@nil
5106   }%
5107 }

5108 \define@key{Field}{rotation}{%
5109   \def\Fld@rotation{#1}%
5110 }

5111 \define@key{Field}{backgroundcolor}{%
5112   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5113 }
5114 \define@key{Field}{bordercolor}{%
5115   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5116 }
5117 \define@key{Field}{color}{%
5118   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5119 }

5120 \def\Fld@onclick@code{}
5121 \def\Fld@format@code{}
5122 \def\Fld@validate@code{}
5123 \def\Fld@calculate@code{}
5124 \def\Fld@keystroke@code{}
5125 \def\Fld@onfocus@code{}
5126 \def\Fld@onblur@code{}
5127 \def\Fld@onmousedown@code{}
5128 \def\Fld@onmouseup@code{}
5129 \def\Fld@onenter@code{}
5130 \def\Fld@onexit@code{}

```

```

5131 \def\Hy@temp#1{%
5132   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5133 }
5134 \def\Hy@@temp#1#2{%
5135   \ifHy@pdfa
5136     \define@key{Field}{#2}{%
5137       \PackageError{hyperref}{%
5138         PDF/A: Additional action ‘#2’ is prohibited%
5139       }\@ehc
5140     }%
5141   \else
5142     \define@key{Field}{#2}{%
5143       \def#1{##1}%
5144     }%
5145   \fi
5146 }
5147 \Hy@temp{keystroke}
5148 \Hy@temp{format}
5149 \Hy@temp{validate}
5150 \Hy@temp{calculate}
5151 \Hy@temp{onfocus}
5152 \Hy@temp{onblur}
5153 \Hy@temp{onenter}
5154 \Hy@temp{onexit}
5155 \def\Hy@temp#1{%
5156   \define@key{Field}{#1}{%
5157     \Field@addtoks{#1}{##1}%
5158   }%
5159 }
5160 \Hy@temp{onselect}
5161 \Hy@temp{onchange}
5162 \Hy@temp{ondblclick}
5163 \Hy@temp{onmousedown}
5164 \Hy@temp{onmouseup}
5165 \Hy@temp{onmouseover}
5166 \Hy@temp{onmousemove}
5167 \Hy@temp{onmouseout}
5168 \Hy@temp{onkeypress}
5169 \Hy@temp{onkeydown}
5170 \Hy@temp{onkeyup}
5171 \ifHy@pdfa
5172   \define@key{Field}{onclick}{%
5173     \PackageError{hyperref}{%
5174       PDF/A: Action ‘onclick’ is prohibited%
5175     }\@ehc
5176   }%
5177 \else
5178   \define@key{Field}{onclick}{%
5179     \def\Fld@onclick@code{#1}%
5180     \Field@addtoks{onclick}{#1}%
5181   }%
5182 \fi
5183 \DeclareRobustCommand\TextField{%
5184   \@ifnextchar[{\@TextField}{\@TextField[]}%
5185 }
5186 \DeclareRobustCommand\ChoiceMenu{%
5187   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%

```

```

5188 }
5189 \DeclareRobustCommand\CheckBox{%
5190   \ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5191 }
5192 \DeclareRobustCommand\PushButton{%
5193   \ifnextchar[{\@PushButton}{\@PushButton[]}%
5194 }
5195 \DeclareRobustCommand\Gauge{%
5196   \ifnextchar[{\@Gauge}{\@Gauge[]}%
5197 }
5198 \DeclareRobustCommand\Submit{%
5199   \ifnextchar[{\@Submit}{\@Submit[]}%
5200 }
5201 \DeclareRobustCommand\Reset{%
5202   \ifnextchar[{\@Reset}{\@Reset[]}%
5203 }
5204 \def\LayoutTextField#1#2{% label, field
5205   #1 #2%
5206 }
5207 \def\LayoutChoiceField#1#2{% label, field
5208   #1 #2%
5209 }
5210 \def\LayoutCheckField#1#2{% label, field
5211   #1 #2%
5212 }
5213 \def\LayoutPushButtonField#1{% button
5214   #1%
5215 }
5216 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5217 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5218 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5219 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5220 \def\MakeButtonField#1{%
5221   \sbox0{%
5222     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
5223   }%
5224   \@tempdima\ht0 %
5225   \advance\@tempdima by \Fld@borderwidth bp %
5226   \advance\@tempdima by \Fld@borderwidth bp %
5227   \ht0\@tempdima
5228   \@tempdima\dp0 %
5229   \advance\@tempdima by \Fld@borderwidth bp %
5230   \advance\@tempdima by \Fld@borderwidth bp %
5231   \dp0\@tempdima
5232   \box0\relax
5233 }
5234 \def\DefaultHeightofSubmit{14pt}
5235 \def\DefaultWidthofSubmit{2cm}
5236 \def\DefaultHeightofReset{14pt}
5237 \def\DefaultWidthofReset{2cm}
5238 \def\DefaultHeightofCheckBox{\baselineskip}
5239 \def\DefaultWidthofCheckBox{\baselineskip}
5240 \def\DefaultHeightofChoiceMenu{\baselineskip}
5241 \def\DefaultWidthofChoiceMenu{\baselineskip}
5242 \def\DefaultHeightofText{\baselineskip}
5243 \def\DefaultHeightofTextMultiline{4\baselineskip}
5244 \def\DefaultWidthofText{3cm}

```

```

5245 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
5246 \def\DefaultOptionsofReset{print,name=Reset,noexport}
5247 \def\DefaultOptionsofPushButton{print}
5248 \def\DefaultOptionsofCheckBox{print}
5249 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

5250 \def\DefaultOptionsofListBox{print}
5251 \def\DefaultOptionsofComboBox{print,edit,sort}
5252 \def\DefaultOptionsofPopdownBox{print}
5253 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```

5254 \ifHy@figures
5255 \Hy@Info{Hyper figures ON}%
5256 \else
5257 \Hy@Info{Hyper figures OFF}%
5258 \fi
5259 \ifHy@nesting
5260 \Hy@Info{Link nesting ON}%
5261 \else
5262 \Hy@Info{Link nesting OFF}%
5263 \fi
5264 \ifHy@hyperindex
5265 \Hy@Info{Hyper index ON}%
5266 \else
5267 \Hy@Info{Hyper index OFF}%
5268 \fi
5269 \ifHy@backref
5270 \Hy@Info{backreferencing ON}%
5271 \else
5272 \Hy@Info{backreferencing OFF}%
5273 \fi
5274 \ifHy@colorlinks
5275 \Hy@Info{Link coloring ON}%
5276 \else
5277 \Hy@Info{Link coloring OFF}%
5278 \fi
5279 \ifHy@ocgcolorlinks
5280 \Hy@Info{Link coloring with OCG ON}%
5281 \else
5282 \Hy@Info{Link coloring with OCG OFF}%
5283 \fi
5284 \ifHy@pdfa
5285 \Hy@Info{PDF/A mode ON}%
5286 \else
5287 \Hy@Info{PDF/A mode OFF}%
5288 \fi

```

## 21 Low-level utility macros

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

```

5289 \edef\hyper@hash{\string#}
5290 \edef\hyper@tilde{\string~}
5291 \edef\hyper@quote{\string"}

```

```

5292 \let\@currentHref\@empty
5293 \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.

```

5294 \Hy@AtBeginDocument{%
5295   \Hy@pdfstringtrue
5296   \PDF@SetupDoc
5297   \let\PDF@SetupDoc\@empty
5298   \Hy@DisableOption{pdfpagescrop}%
5299   \Hy@DisableOption{pdfpagemode}%
5300   \Hy@DisableOption{pdfnonfullscreenpagemode}%
5301   \Hy@DisableOption{pdfdirection}%
5302   \Hy@DisableOption{pdfviewarea}%
5303   \Hy@DisableOption{pdfviewclip}%
5304   \Hy@DisableOption{pdfprintarea}%
5305   \Hy@DisableOption{pdfprintclip}%
5306   \Hy@DisableOption{pdfprintscaling}%
5307   \Hy@DisableOption{pdfduplex}%
5308   \Hy@DisableOption{pdfpicktraybypdfsize}%
5309   \Hy@DisableOption{pdfprintpagerange}%
5310   \Hy@DisableOption{pdfnumcopies}%
5311   \Hy@DisableOption{pdfstartview}%
5312   \Hy@DisableOption{pdfstartpage}%
5313   \Hy@DisableOption{pdftoolbar}%
5314   \Hy@DisableOption{pdfmenubar}%
5315   \Hy@DisableOption{pdfwindowui}%
5316   \Hy@DisableOption{pdfitwindow}%
5317   \Hy@DisableOption{pdfcenterwindow}%
5318   \Hy@DisableOption{pdfdisplaydoctitle}%
5319   \Hy@DisableOption{pdfpagelayout}%
5320   \Hy@DisableOption{pdflang}%
5321   \Hy@DisableOption{baseurl}%
5322   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
5323   \Hy@pdfstringfalse
5324 }

```

Ignore star from referencing macros:

```

5325 \LetLtxMacro\NoHy@OrgRef\ref
5326 \DeclareRobustCommand*\ref{%
5327   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5328 }
5329 \LetLtxMacro\NoHy@OrgPageRef\pageref
5330 \DeclareRobustCommand*\pageref{%
5331   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5332 }

```

## 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.

```

5333 \def\NoHyper{%
5334   \def\hyper@link@{##1}##2##3##4{##4}%
5335   \def\hyper@anchor##1{%
5336     \global\let\hyper@livelink\hyper@link

```

```

5337 \gdef\hyper@link##1##2##3{##3}%
5338 \def\hyper@anchor##1{}%
5339 \let\hyper@anchorstart##1{}%
5340 \let\hyper@anchorend\@empty
5341 \def\hyper@linkstart##1##2{}%
5342 \let\hyper@linkend\@empty
5343 \def\hyper@linkurl##1##2{##1}%
5344 \def\hyper@linkfile##1##2##3{##1}%
5345 \def\hyper@link@{##1}##2##3{}%
5346 \let\Hy@backout\@gobble
5347 }
5348 \def\stop@hyper{%
5349 \def\hyper@link@{##1}##2##3##4{##4}%
5350 \let\Hy@backout\@gobble
5351 \def\hyper@@anchor##1{}%
5352 \def\hyper@link##1##2##3{##3}%
5353 \def\hyper@anchor##1{}%
5354 \def\hyper@anchorstart##1{}%
5355 \let\hyper@anchorend\@empty
5356 \def\hyper@linkstart##1##2{}%
5357 \let\hyper@linkend\@empty
5358 \def\hyper@linkurl##1##2{##1}%
5359 \def\hyper@linkfile##1##2##3{##1}%
5360 \def\hyper@link@{##1}##2##3{}%
5361 }
5362 \def\endNoHyper{%
5363 \global\let\hyper@link\hyper@livelink
5364 }
5365 \</package>

```

## 23 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```

5366 \*nohyperref
5367 \RequirePackage{letltxmacro}[2008/06/13]
5368 \let\hyper@@anchor\@gobble
5369 \def\hyper@link##1##2##3{##3}%
5370 \let\hyper@anchorstart\@gobble
5371 \let\hyper@anchorend\@empty
5372 \let\hyper@linkstart\@gobbletwo
5373 \let\hyper@linkend\@empty
5374 \def\hyper@linkurl##1##2{##1}%
5375 \def\hyper@linkfile##1##2##3{##1}%
5376 \def\hyper@link@{##1}##2##3{}%
5377 \let\PDF@SetupDoc\@empty
5378 \let\PDF@FinishDoc\@empty
5379 \def\nohyperpage##1{##1}

```

Some top-level commands:

```

5380 \def\Acrobatmenu##1##2{\leavevmode##2}
5381 \let\pdfstringdefDisableCommands\@gobbletwo

```

```

5382 \let\texorpdfstring\@firstoftwo
5383 \let\pdfbookmark\@undefined
5384 \newcommand\pdfbookmark[3][]{ }
5385 \let\phantomsection\@empty
5386 \let\hypersetup\@gobble
5387 \let\hyperbaseurl\@gobble
5388 \let\href\@gobble
5389 \let\hyperdef\@gobbletwo
5390 \let\hyperlink\@gobble
5391 \let\hypertarget\@gobble
5392 \def\hyperref{%
5393   \ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
5394 }
5395 \long\def\@gobbleopt[#1]{ }
5396 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

5397 \LetLtxMacro\NoHy@OrgRef\ref
5398 \DeclareRobustCommand*{\ref}{ }
5399 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5400 }
5401 \LetLtxMacro\NoHy@OrgPageRef\pageref
5402 \DeclareRobustCommand*{\pageref}{ }
5403 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5404 }
5405 \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}`

```

5406 \*package
5407 \Hy@AtBeginDocument{%

```

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.

```

5408 \if@files
5409 \ifHy@typexml
5410 \immediate\closeout\@mainaux
5411 \immediate\openout\@mainaux\jobname.aux\relax
5412 \immediate\write\@auxout{<relaxxml>\relax}%
5413 \fi
5414 \immediate\write\@auxout{%
5415   \string\providecommand\string\HyperFirstAtBeginDocument{%
5416     \string\AtBeginDocument}^^J%
5417   \string\HyperFirstAtBeginDocument{%
5418     \string\ifx\string\hyper@anchor\string\@undefined^^J%
5419     \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
5420     \string\gdef\string\contentsline%
5421       \string#1\string#2\string#3\string#4{%
5422         \string\oldcontentsline%
5423         {\string#1}{\string#2}{\string#3}}^^J%
5424     \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
5425     \string\gdef\string\newlabel\string#1\string#2{%
5426       \string\newlabelxx{\string#1}\string#2}^^J%

```





```

5467 \gdef\Hy@title{#1}%
5468 \HyOrg@title{#1}%
5469 }%
5470 \def\Hy@scantitle#1{%
5471 \gdef\Hy@title{#1}%
5472 \HyOrg@title{#1}%
5473 }%
5474 \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
5475 \def\Hy@scanoptauthor[#1]{%
5476 \gdef\Hy@author{#1}%
5477 \HyOrg@author{#1}%
5478 }%
5479 \def\Hy@scanauthor#1{%
5480 \gdef\Hy@author{#1}%
5481 \HyOrg@author{#1}%
5482 }%

```

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.

```

5483 \begingroup
5484 \def\process@me#1\@nil#2{%
5485 \expandafter\let\expandafter\x\csname @#2\endcsname
5486 \edef\y{\expandafter\strip@prefix\meaning\x}%
5487 \def\c##1#1##2\@nil{%
5488 \ifx\\##1\\%
5489 \else
5490 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
5491 \expandafter{\x}%
5492 \fi
5493 }%
5494 \expandafter\c\y\relax#1\@nil
5495 }%
5496 \expandafter\process@me\string\@latex@\@nil{title}%
5497 \expandafter\process@me\string\@latex@\@nil{author}%
5498 \endgroup
5499 \fi
5500 \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.

```

5501 \def\Hy@UseMaketitleString#1{%
5502 \ltx@ifundefined{Hy@#1}{\}%
5503 \begingroup
5504 \let\Hy@saved@hook\pdfstringdefPreHook
5505 \pdfstringdefDisableCommands{%
5506 \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
5507 \let\newline\\%
5508 }%
5509 \expandafter\ifx\csname @pdf#1\endcsname\@empty
5510 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%

```

```

5511      \csname Hy@#1\endcsname\@empty
5512    }%
5513  \fi
5514    \global\let\pdfstringdefPreHook\Hy@saved@hook
5515  \endgroup
5516 }%
5517 }
5518 \def\Hy@newline@title#1{ #1}
5519 \def\Hy@newline@author#1{, #1}
5520 \def\Hy@UseMaketitleInfos{%
5521   \Hy@UseMaketitleString{title}%
5522   \Hy@UseMaketitleString{author}%
5523 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```

5524 \RequirePackage{atbegshi}[2007/09/09]
5525 \def\Hy@EveryPageHook{}
5526 \def\Hy@EveryPageBoxHook{}
5527 \def\Hy@FirstPageHook{}
5528 \AtBeginShipout{%
5529   \Hy@EveryPageHook
5530   \ifx\Hy@EveryPageBoxHook\@empty
5531   \else
5532     \setbox\AtBeginShipoutBox=\vbox{%
5533       \offinterlineskip
5534       \Hy@EveryPageBoxHook
5535       \box\AtBeginShipoutBox
5536     }%
5537   \fi
5538 }
5539 \AtBeginShipoutFirst{%
5540   \Hy@FirstPageHook
5541 }
5542 \g@addto@macro\Hy@FirstPageHook{%
5543   \PDF@FinishDoc
5544   \gdef\PDF@FinishDoc{}}%
5545 }

```

### 27.1 PDF /PageLabels

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

```

5546 \ifHy@pagelabels
5547   \begingroup\expandafter\expandafter\expandafter\endgroup
5548   \expandafter\ifx\csname thepage\endcsname\relax
5549     \Hy@pagelabelsfalse
5550     \Hy@WarningNoLine{%
5551       Option 'pdfpagelabels' is turned off\MessageBreak
5552       because \string\thepage\space is undefined%
5553     }%
5554     \csname fi\endcsname
5555     \csname iffalse\expandafter\endcsname

```

5556 \fi

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

5557 \def\thispdfpagelabel#1{%  
5558 \gdef\HyPL@thisLabel{#1}%  
5559 }%  
5560 \global\let\HyPL@thisLabel\relax

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

5561 \def\HyPL@Labels{%

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

5562 \newcount\Hy@abspage  
5563 \Hy@abspage=0 %

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

5564 \def\HyPL@LastType{init}%  
5565 \def\HyPL@LastNumber{0}%  
5566 \def\HyPL@LastPrefix{}%

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

5567 \def\HyPL@arabic{D}%  
5568 \def\HyPL@Roman{R}%  
5569 \def\HyPL@roman{r}%  
5570 \def\HyPL@Alph{A}%  
5571 \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.

5572 \def\HyPL@EveryPage{%  
5573 \begingroup  
5574 \ifx\HyPL@thisLabel\relax  
5575 \let\HyPL@page\thepage  
5576 \else  
5577 \let\HyPL@page\HyPL@thisLabel  
5578 \global\let\HyPL@thisLabel\relax  
5579 \fi  
5580 \let\HyPL@Type\relax  
5581 \ifnum\the\c@page>0 %  
5582 \expandafter\HyPL@CheckThePage\HyPL@page\@nil  
5583 \fi  
5584 \let\Hy@temp Y%  
5585 \ifx\HyPL@Type\HyPL@LastType  
5586 \else  
5587 \let\Hy@temp N%  
5588 \fi  
5589 \ifx\HyPL@Type\relax  
5590 \pdfstringdef\HyPL@Prefix{\HyPL@page}%  
5591 \else  
5592 \pdfstringdef\HyPL@Prefix\HyPL@Prefix  
5593 \fi  
5594 \ifx\HyPL@Prefix\HyPL@LastPrefix  
5595 \else  
5596 \let\Hy@temp N%  
5597 \fi  
5598 \if Y\Hy@temp

```

5599 \advance\c@page by -1 %
5600 \ifnum\HyPL@LastNumber=\the\c@page\relax
5601 \else
5602 \let\Hy@temp N%
5603 \fi
5604 \Hy@StepCount\c@page
5605 \fi
5606 \if N\Hy@temp
5607 \ifx\HyPL@Type\relax
5608 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
5609 \else
5610 \HyPL@StorePageLabel{%
5611 \ifx\HyPL@Prefix\@empty
5612 \else
5613 /P(\HyPL@Prefix)%
5614 \fi
5615 /S/\csname HyPL\HyPL@Type\endcsname
5616 \ifnum\the\c@page=1 %
5617 \else
5618 \space/St \the\c@page
5619 \fi
5620 }%
5621 \fi
5622 \fi
5623 \xdef\HyPL@LastNumber{\the\c@page}%
5624 \global\let\HyPL@LastType\HyPL@Type
5625 \global\let\HyPL@LastPrefix\HyPL@Prefix
5626 \endgroup
5627 \Hy@GlobalStepCount\Hy@abspage
5628 }%

```

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

```

5629 \def\HyPL@CheckThePage#1\@nil{%
5630 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
5631 }%

```

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

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

```

5632 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
5633 \def\Hy@tempa{#4}%
5634 \def\Hy@tempb{\csname\endcsname\c@page}%
5635 \ifx\Hy@tempa\Hy@tempb
5636 \expandafter\ifx\csname HyPL#3\endcsname\relax
5637 \else
5638 \def\HyPL@Type{#3}%
5639 \def\HyPL@Prefix{#2}%
5640 \fi
5641 \else
5642 \begingroup
5643 \let\Hy@next\endgroup
5644 \let\HyPL@found\@undefined
5645 \def\arabic{\HyPL@Format{arabic}}%
5646 \def\Roman{\HyPL@Format{Roman}}%
5647 \def\roman{\HyPL@Format{roman}}%

```

```

5648 \def\Alph{\HyPL@Format{Alph}}%
5649 \def\alph{\HyPL@Format{alph}}%
5650 \protected@edef\Hy@temp{#1}%
5651 \ifx\HyPL@found\relax
5652 \toks@ \expandafter{\Hy@temp}%
5653 \edef\Hy@next{\endgroup
5654 \noexpand\HyPL@@@CheckThePage\the\toks@
5655 \noexpand\HyPL@found\relax\noexpand\@nil
5656 }%
5657 \fi
5658 \Hy@next
5659 \fi
5660 }%

```

`\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`.

```

5661 \def\HyPL@Format#1#2{%
5662 \ifx\HyPL@found\@undefined
5663 \expandafter\ifx\csname c@#2\endcsname\c@page
5664 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
5665 \else
5666 \expandafter\noexpand\csname#1\endcsname{#2}%
5667 \fi
5668 \else
5669 \expandafter\noexpand\csname#1\endcsname{#2}%
5670 \fi
5671 }%

```

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

```

5672 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
5673 \def\Hy@tempa{#3}%
5674 \def\Hy@tempb{\HyPL@found\relax}%
5675 \ifx\Hy@tempa\Hy@tempb
5676 \def\HyPL@Type{#2}%
5677 \def\HyPL@Prefix{#1}%
5678 \fi
5679 }%

```

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

```

5680 \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`.

```

5681 \def\HyPL@Useless{0<</S/D>>}%
5682 \@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.

```

5683 \def\HyPL@SetPageLabels{%
5684 \@onelevel@sanitize\HyPL@Labels
5685 \ifx\HyPL@Labels\@empty
5686 \else
5687 \ifx\HyPL@Labels\HyPL@Useless
5688 \else

```

```

5689      \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
5690      \fi
5691      \fi
5692    }%

```

```

5693    \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
5694  \fi

```

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

```

5695 \Hy@DisableOption{pdfpagelabels}
5696 \</package>

```

### 27.1.1 pdfTeX and VTeX

Because of pdfTeX’s \pdfcatalog command the /PageLabels entry can set at end of document in the first run.

\Hy@PutCatalog

```

5697 \<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.

```

5698 \<*vTeX>
5699 \providecommand*{\XR@ext}{pdf}
5700 \edef\Hy@VTeXversion{%
5701   \ifx\VTeXversion\@undefined
5702     \z@
5703   \else
5704     \ifx\VTeXversion\relax
5705       \z@
5706     \else
5707       \VTeXversion
5708     \fi
5709   \fi
5710 }
5711 \begingroup
5712   \ifnum\Hy@VTeXversion<660 %
5713     \gdef\Hy@PutCatalog#1{%
5714       \Hy@WarningNoLine{%
5715         VTeX 6.59g or above required for pdfpagelabels%
5716       }%
5717     }%
5718   \else
5719     \gdef\Hy@PutCatalog#1{%
5720       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
5721     }%
5722     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
5723       \ifx\#2\%
5724         \else
5725           \immediate\special{!pdfpagelabels #2}%
5726         \fi
5727       }%
5728     \fi
5729 \endgroup
5730 \</vTeX>

```

5731  $\langle *pdf\text{tex} \mid vt\text{ex} \rangle$

$\backslash\text{HyPL@StorePageLabel}$  This macro adds the entry #1 to  $\backslash\text{HyPL@Labels}$ .

```
5732 \ifHy@pagelabels
5733   \def\HyPL@StorePageLabel#1{%
5734     \toks@\expandafter{\HyPL@Labels}%
5735     \xdef\HyPL@Labels{%
5736       \the\toks@
5737       \the\Hy@abspage<<#1>>%
5738     }%
5739   }%
```

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

```
5740 \RequirePackage{atveryend}[2009/12/07]%
5741 \AtVeryEndDocument{%
5742   \HyPL@SetPageLabels
5743 }%

5744 \fi
5745  $\langle /pdf\text{tex} \mid vt\text{ex} \rangle$ 
```

### 27.1.2 xetex

```
5746  $\langle *x\text{etex} \rangle$ 
5747 \HyPsd@LoadUnicode
5748 \Hy@unicodetrue
5749 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
5750 \else
5751   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
5752 \fi
5753 \HyPsd@LoadStringEncoding
5754 \define@key{Hyp}{unicode}[true]{%
5755   \Hy@boolkey{unicode}{#1}%
5756   \ifHy@unicode
5757     \else
5758       \Hy@Warning{%
5759         XeTeX driver only supports ‘unicode=true’.\MessageBreak
5760         Ignoring option setting ‘unicode=false’%
5761       }%
5762       \Hy@unicodetrue
5763     \fi
5764   }
5765 \define@key{Hyp}{pdfencoding}{%
5766   \edef\HyPsd@temp{#1}%
5767   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
5768     \let\HyPsd@pdfencoding\HyPsd@temp
5769   \else
5770     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
5771       \let\HyPsd@pdfencoding\HyPsd@temp
5772     \else
5773       \Hy@Warning{%
5774         XeTeX driver only supports\MessageBreak
5775         ‘pdfencoding=unicode|auto’. Ignoring option\MessageBreak
5776         setting ‘pdfencoding=\HyPsd@temp’%
5777       }%
```



```

5778 \fi
5779 \fi
5780 }
5781 \let\HyXeTeX@CheckUnicode\relax
5782 \</xetex>

```

### 27.1.3 pdfmarkbase, dvipdfm, xetex

```

5783 <*pdfmarkbase>
5784 \begingroup
5785 \ifundefined{headerps@out}{-}{%
5786 \toks@ \expandafter{\Hy@FirstPageHook}%
5787 \xdef\Hy@FirstPageHook{%
5788 \noexpand\headerps@out{%
5789 systemdict /pdfmark known%
5790 {%
5791 userdict /?pdfmark systemdict /exec get put%
5792 }{%
5793 userdict /?pdfmark systemdict /pop get put %
5794 userdict /pdfmark systemdict /cleartomark get put%
5795 }%
5796 ifelse%
5797 }%
5798 \the\toks@
5799 }%
5800 }%
5801 \endgroup
5802 </pdfmarkbase>

```

\Hy@PutCatalog

```

5803 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
5804 <*pdfmarkbase>
5805 \def\Hy@PutCatalog#1{%
5806 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
5807 }
5808 </pdfmarkbase>

5809 <*pdfmarkbase | dvipdfm | xetex>
5810 \ifHy@pagelabels

```

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

```

5811 \def\HyPL@StorePageLabel#1{%
5812 \if@files
5813 \begingroup
5814 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5815 \immediate\write\@mainaux{%
5816 \string\HyPL@Entry{\Hy@tempa}%
5817 }%
5818 \endgroup
5819 \fi
5820 }%

```

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.

```

5821 \Hy@AtBeginDocument{%
5822 \if@files
5823 \immediate\write\@mainaux{%
5824 \string\providecommand\string*\string\HyPL@Entry[1]{}%

```

```

5825 }%
5826 \fi
5827 \ifx\HyPL@Labels\@empty
5828 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5829 \else
5830 \HyPL@SetPageLabels
5831 \fi
5832 \let\HyPL@Entry\@gobble
5833 }%

```

\HyPL@Entry

```

5834 \def\HyPL@Entry#1{%
5835 \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5836 \HyPL@Labels
5837 #1%
5838 }%
5839 }%

5840 \fi
5841 \pdfmarkbase | dvipdfm | xetex>

5842 \*package>

5843 \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 it’s 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

```

5844 \def\Hy@CounterExists#1{%
5845 \begingroup\expandafter\expandafter\expandafter\endgroup
5846 \expandafter\ifx\csname c@#1\endcsname\relax
5847 \expandafter\@gobble
5848 \else
5849 \begingroup\expandafter\expandafter\expandafter\endgroup
5850 \expandafter\ifx\csname the#1\endcsname\relax
5851 \expandafter\expandafter\expandafter\@gobble
5852 \else
5853 \expandafter\expandafter\expandafter\@firstofone
5854 \fi
5855 \fi
5856 }

```

```

5857 \Hy@CounterExists{section}{%
5858 \newcommand\theHequation{\theHsection.\arabic{equation}}}%
5859 }
5860 \Hy@CounterExists{part}{%
5861 \newcommand\theHpart{\arabic{part}}}%
5862 }
5863 \ltx@ifundefined{thechapter}{%
5864 \newcommand\theHsection {\arabic{section}}}%
5865 \newcommand\theHfigure {\arabic{figure}}}%
5866 \newcommand\theHtable {\arabic{table}}}%
5867 }{%
5868 \newcommand\theHchapter {\arabic{chapter}}}%
5869 \newcommand\theHfigure {\theHchapter.\arabic{figure}}}%
5870 \newcommand\theHtable {\theHchapter.\arabic{table}}}%
5871 \newcommand\theHsection {\theHchapter.\arabic{section}}}%
5872 }
5873 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
5874 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5875 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
5876 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
5877 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
5878 \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.

```

5879 \let\H@item\item
5880 \newcounter{Item}
5881 \def\theHItem{\arabic{Item}}
5882 \def\item{%
5883 \@hyper@itemfalse
5884 \if@nmbrlist\@hyper@itemtrue\fi
5885 \H@item
5886 }
5887 \newcommand\theHenumi {\theHItem}
5888 \newcommand\theHenumii {\theHItem}
5889 \newcommand\theHenumiii {\theHItem}
5890 \newcommand\theHenumiv {\theHItem}
5891 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5892 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5893 \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.

```

5894 \let\H@refstepcounter\refstepcounter
5895 \edef\name@of@eq{equation}%
5896 \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.

```

5897 \newif\if@hyper@item
5898 \newif\if@skiphyperref
5899 \@hyper@itemfalse
5900 \@skiphyperreffalse
5901 \def\refstepcounter#1{%
5902 \ifHy@pdfstring

```

```

5903 \else
5904   \H@refstepcounter{#1}%
5905   \edef\This@name{#1}%
5906   \ifx\This@name\name@of@slide
5907   \else
5908     \if@skiphyperref
5909     \else
5910       \if@hyper@item
5911       \stepcounter{Item}%
5912       \hyper@refstepcounter{Item}%
5913       \@hyper@itemfalse
5914     \else
5915       \hyper@refstepcounter{#1}%
5916     \fi
5917   \fi
5918 \fi
5919 \fi
5920 }

```

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

```

5921 \ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

5922 \def\hyper@refstepcounter#1{%
5923   \edef\This@name{#1}%
5924   \ifx\This@name\name@of@eq
5925     \@ifundefined{theHequation}{%
5926       \make@stripped@name{\theequation}%
5927       \let\theHequation\newname
5928     }{}%
5929   \fi
5930   \@ifundefined{theH#1}{%
5931     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5932   }{}%
5933   \hyper@makecurrent{#1}%
5934   \ifmeasuring@
5935   \else
5936     \Hy@raisedlink{%
5937       \hyper@anchorstart{\@currentHref}\hyper@anchorend
5938     }%
5939   \fi
5940 }

```

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`.

```

5941 \begingroup\expandafter\expandafter\expandafter\endgroup
5942 \expandafter\ifx\csname chapter\endcsname\relax
5943   \def\Hy@chapterstring{section}%
5944 \else
5945   \def\Hy@chapterstring{chapter}%
5946 \fi
5947 \def\Hy@appendixstring{appendix}

```

```

5948 \def\Hy@chapapp{\Hy@chapterstring}
5949 \let\HyOrg@appendix\appendix
5950 \def\appendix{%
5951   \ltx@ifundefined{chapter}%
5952     {\gdef\theHsection{\Alph{section}}}%
5953     {\gdef\theHchapter{\Alph{chapter}}}%
5954   \xdef\Hy@chapapp{\Hy@appendixstring}%
5955   \HyOrg@appendix
5956 }

```

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

```

5957 \def\hyper@makecurrent#1{%
5958   \begingroup
5959   \edef\Hy@param{#1}%
5960   \ifx\Hy@param\Hy@chapterstring
5961     \let\Hy@param\Hy@chapapp
5962   \fi
5963   \ifHy@hypertextnames
5964     \let\@number\@firstofone
5965     \ifundefined{latin@Alph}{\fi}%
5966     \ifx\@Alph\greek@Alph
5967       \def\@Alph{Alph\@arabic}%
5968     \fi
5969   }%
5970   \ifx\@Alph\@Alph@bul
5971     \def\@Alph{Alph\@arabic}%
5972   \fi
5973   \ifx\@alph\@alph@bul
5974     \def\@alph{alph\@arabic}%
5975   \fi
5976   \ifHy@naturalnames
5977     \let\textlatin\@firstofone
5978     \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
5979   \else
5980     \xdef\HyperGlobalCurrentHref{%
5981       \csname
5982         the%
5983         \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5984         #1%
5985       \endcsname
5986     }%
5987   \fi
5988   \xdef\HyperGlobalCurrentHref{%
5989     \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
5990   }%
5991   \else
5992     \Hy@GlobalStepCount\Hy@linkcounter
5993     \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
5994   \fi
5995   \endgroup
5996   \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
5997   \ifHy@localanchorname
5998     \let\@currentHref\HyperLocalCurrentHref
5999   \else
6000     \global\let\@currentHref\HyperGlobalCurrentHref
6001   \fi

```

```
6002 }
```

```
\Hy@MakeCurrentHref
```

```
6003 \def\Hy@MakeCurrentHref#1{%
6004   \edef\HyperLocalCurrentHref{#1}%
6005   \@onelevel@sanitize\HyperLocalCurrentHref
6006   \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6007   \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6008   \ifHy@localanchorname
6009     \let\@currentHref\HyperLocalCurrentHref
6010   \else
6011     \global\let\@currentHref\HyperGlobalCurrentHref
6012   \fi
6013 }
```

```
\Hy@MakeCurrentHrefAuto
```

```
6014 \def\Hy@MakeCurrentHrefAuto#1{%
6015   \Hy@GlobalStepCount\Hy@linkcounter
6016   \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6017 }
```

```
\@currentHlabel \@currentHlabel is only defined for compatibility with package ‘hydvips’.
```

```
6018 \def\@currentHlabel{\@currentHref}

6019 \@ifpackageloaded{fancyvrb}{%
6020   \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
6021     \def\FV@StepLineNo{%
6022       \FV@SetLineNo
6023       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6024       \FV@SetLineNo
6025     }%
6026   }%
6027 }{-}
```

## 29 Package lastpage support

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

```
\lastpage@putlabel
```

```
6028 \Hy@AtBeginDocument{%
6029   \@ifclassloaded{revtex4}{%
6030     \@namedef{ver@lastpage.sty}{1994/06/25}%
6031   }{-}%
6032   \@ifpackageloaded{lastpage}{%
6033     \ifHy@pageanchor
6034     \else
6035       \Hy@WarningNoLine{%
6036         The \string\pageref{LastPage} link doesn’t work\MessageBreak
6037         with disabled option ‘pageanchor’%

```

```

6038 }%
6039 \fi
6040 \def\lastpage@putlabel{%
6041   \addtocounter{page}{-1}%
6042   \if@filesw
6043     \begingroup
6044       \let\@number\@firstofone
6045       \ifHy@pageanchor
6046         \ifHy@hypertexnames
6047           \ifHy@plainpages
6048             \def\Hy@temp{\arabic{page}}%
6049           \else
6050             \Hy@unicodefalse
6051             \pdfstringdef\Hy@temp{\thepage}%
6052           \fi
6053         \else
6054           \def\Hy@temp{\the\Hy@pagecounter}%
6055         \fi
6056       \fi
6057       \immediate\write\@auxout{%
6058         \string\newlabel
6059         {LastPage}{\the\thepage}{\thepage}%
6060         \ifHy@pageanchor page.\Hy@temp\fi}{}}%
6061     }%
6062   \endgroup
6063 \fi
6064 \addtocounter{page}{1}%
6065 }%
6066 \@ifclassloaded{revtex4}{%
6067   \begingroup
6068   \toks@\expandafter{\lastpage@putlabel}%
6069   \edef\x{\endgroup
6070     \def\noexpand\lastpage@putlabel{%
6071       \noexpand\stepcounter{page}%
6072       \the\toks@
6073       \noexpand\addtocounter{page}\noexpand\m@ne
6074     }%
6075   }%
6076   \x
6077 }{}%
6078 }{}%
6079 }
6080 \</package>
6081 \<*check>
6082 \checkpackage{lastpage}[1994/06/25]
6083 \checkcommand\def\lastpage@putlabel{%
6084   \addtocounter{page}{-1}%
6085   \immediate\write\@auxout{%
6086     \string\newlabel{LastPage}{\the\thepage}{\thepage}%
6087   }%
6088   \addtocounter{page}{1}%
6089 }
6090 \</check>
6091 \<*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.

```
6092 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
6093 \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:

```
6094 \@ifpackageloaded{titlesec}{%
6095   \def\ttl@Hy@steplink#1{%
6096     \Hy@MakeCurrentHrefAuto{#1*}%
6097     \edef\ttl@Hy@saveanchor{%
6098       \noexpand\Hy@raisedlink{%
6099         \noexpand\hyper@anchorstart{\@currentHref}%
6100         \noexpand\hyper@anchorend
6101       \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6102       \noexpand\ttl@Hy@PatchSaveWrite
6103     }%
6104   }%
6105 }%
6106 \def\ttl@Hy@PatchSaveWrite{%
6107   \begingroup
6108   \toks@\expandafter{\ttl@savewrite}%
6109   \edef\x{\endgroup
6110     \def\noexpand\ttl@savewrite{%
6111       \let\noexpand\@currentHref
6112       \noexpand\ttl@Hy@SavedCurrentHref
6113       \the\toks@
6114     }%
6115   }%
6116   \x
6117 }%
6118 \def\ttl@Hy@refstepcounter#1{%
6119   \let\ttl@b\Hy@raisedlink
6120   \def\Hy@raisedlink##1{%
6121     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
6122   }%
6123   \refstepcounter{#1}%
6124   \let\Hy@raisedlink\ttl@b
6125 }%
6126 }
```

Package titletoc support:

```
6127 \@ifpackageloaded{titletoc}{%
6128   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
6129 }
```

## 32 Package varioref support

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



```

6130 \def\Hy@varioref@undefined{{??}{??}}{}{}
6131 \@ifpackageloaded{varioref}{%
6132   \def\vref@pagenum#1#2{%
6133     \@ifundefined{r@#2}{%
6134       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
6135     }{}%
6136     \edef#1{\getpagerefnumber{#2}}%
6137   }%
6138 }{}

```

### 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

```

6139 \@ifpackageloaded{longtable}{%
6140   \begingroup
6141   \def\y{\LT@array}%
6142   \@ifundefined{scr@LT@array}{}{\def\y{\scr@LT@array}}%
6143   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
6144     \expandafter\endgroup
6145     \expandafter\def\y[#1]#2{%
6146       \H@refstepcounter{#1}%
6147       \hyper@makecurrent{table}%
6148       \let\Hy@LT@currentHref\@currentHref
6149       #2\@sharp#3#4%
6150     }%
6151   }%
6152   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

6153 \begingroup
6154 \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
6155   \endgroup
6156   \def\LT@start{%
6157     #1%
6158     \let\@currentHref\Hy@LT@currentHref
6159     \Hy@raisedlink{%
6160       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6161     }%
6162     \ifvoid\LT@firsthead\copy
6163       #2%
6164     }%
6165   }%
6166   \expandafter\x\LT@start\@nil
6167 }{}

```

### 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.

```

6168 \let\new@refstepcounter\refstepcounter
6169 \let\H@equation\equation
6170 \let\H@endequation\endequation

6171 \ifpackageloaded{amsmath}{%
6172   \long\def\Hy@temp{%
6173     \incr@eqnum
6174     \mathdisplay@push
6175     \st@rredfalse \global\@eqnswtrue
6176     \mathdisplay{equation}%
6177   }%
6178   \ifx\Hy@temp\equation
6179     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6180       \csname iftrue\endcsname
6181   \else
6182     \long\def\equation{%
6183       \mathdisplay@push
6184       \st@rredfalse \global\@eqnswtrue
6185       \mathdisplay{equation}%
6186       \incr@eqnum
6187     }%
6188   \fi
6189 \fi
6190 }{%
6191 \def\equation{%
6192   \let\refstepcounter\H@refstepcounter
6193   \H@equation
6194   \ifundefined{theHequation}{%
6195     \make@stripped@name{\theequation}%
6196     \let\theHequation\newname
6197   }{%
6198     \hyper@makecurrent{equation}%
6199     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
6200     \let\refstepcounter\new@refstepcounter
6201   }%
6202 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6203 }

```

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.

```

6204 \newif\if@eqnstar
6205 \@eqnstarfalse
6206 \let\H@eqnarray\eqnarray
6207 \let\H@endeqnarray\endeqnarray
6208 \def\eqnarray{%
6209   \let\Hy@reserved@a\relax
6210   \def\@currentHref{}%
6211   \H@eqnarray
6212   \if@eqnstar
6213   \else
6214     \ifx\\\@currentHref\\%
6215     \else
6216       \ifundefined{theHequation}{%

```

```

6217 \make@stripped@name{\theequation}%
6218 \let\theHequation\newname
6219 }{}%
6220 \hyper@makecurrent{equation}%
6221 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6222 \fi
6223 \fi
6224 }
6225 \def\endeqnarray{%
6226 \H@endeqnarray
6227 }

```

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.

```

6228 \@namedef{eqnarray*}{%
6229 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
6230 }
6231 \@namedef{endeqnarray*}{%
6232 \nonumber\endeqnarray\@eqnstarfalse
6233 }

```

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

```

6234 \ltx@ifundefined{subeqnarray}{}{%
6235 \let\H@subeqnarray\subeqnarray
6236 \let\H@endsubeqnarray\endsubeqnarray
6237 \def\subeqnarray{%
6238 \let\Hy@reserved@a\relax
6239 \H@subeqnarray
6240 \@ifundefined{theHequation}{%
6241 \make@stripped@name{\theequation}%
6242 \let\theHequation\newname
6243 }{}%
6244 \hyper@makecurrent{equation}%
6245 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6246 }%
6247 \def\endsubeqnarray{%
6248 \H@endsubeqnarray
6249 }%
6250 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
6251 }

```

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

```

6252 \def\make@stripped@name#1{%
6253 \begingroup
6254 \escapechar\m@ne
6255 \global\let\newname\@empty
6256 \protected@edef\Hy@tempa{#1}%
6257 \edef\@tempb{%
6258 \noexpand\@tfor\noexpand\Hy@tempa:=%
6259 \expandafter\strip@prefix\meaning\Hy@tempa
6260 }%
6261 \@tempb\do{%
6262 \if{\Hy@tempa\else
6263 \if}\Hy@tempa\else
6264 \xdef\newname{\newname\Hy@tempa}%
6265 \fi
6266 \fi
6267 }%

```

```

6268 \endgroup
6269 }

```

Support for amsmath's subequations:

```

6270 \begingroup\expandafter\expandafter\expandafter\endgroup
6271 \expandafter\ifx\csname subequations\endcsname\relax
6272 \else
6273 \let\HyOrg@subequations\subequations
6274 \def\subequations{%
6275 \stepcounter{equation}%
6276 \protected@edef\theHparentequation{%
6277 \ifundefined{theHequation}\theequation\theHequation
6278 }%
6279 \addtocounter{equation}{-1}%
6280 \HyOrg@subequations
6281 \def\theHequation{\theHparentequation\alph{equation}}%
6282 \ignorespaces
6283 }%
6284 \fi

```

Support for package amsthm (Daniel Müllner):

```

6285 \ifpackageloaded{amsthm}{%
6286 \def\@thm#1#2#3{%
6287 \ifhmode
6288 \unskip\unskip\par
6289 \fi
6290 \normalfont
6291 \trivlist
6292 \let\thmheadnl\relax
6293 \let\thm@swap\@gobble
6294 \thm@notefont{\fontseries\mddefault\upshape}%
6295 \thm@headpunct{.}% add period after heading
6296 \thm@headsep 5\p@ plus\p@ minus\p@\relax
6297 \thm@space@setup
6298 #1% style overrides
6299 \@topsep \thm@preskip % used by thm head
6300 \@topsepadd \thm@postskip % used by \endparentv
6301 \def\dth@counter{#2}%
6302 \ifx\@empty\dth@counter
6303 \def\@tempa{%
6304 \oparg{\@begintheorem{#3}{}}[]%
6305 }%
6306 \else
6307 \H@refstepcounter{#2}%
6308 \hyper@makecurrent{#2}%
6309 \let\Hy@dth@currentHref\@currentHref
6310 \def\@tempa{%
6311 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
6312 }%
6313 \fi
6314 \@tempa
6315 }%
6316 \dth@everypar={%
6317 \@minipagefalse
6318 \global\@newlistfalse
6319 \@noparitemfalse
6320 \if@inlabel
6321 \global\@inlabelfalse

```

```

6322 \begingroup
6323 \setbox\z@\lastbox
6324 \ifvoid\z@
6325 \kern-\itemindent
6326 \fi
6327 \endgroup
6328 \ifx\@empty\dth@counter
6329 \else
6330 \Hy@raisedlink{%
6331 \hyper@anchorstart{%
6332 \ltx@ifundefined{Hy@dth@currentHref}%
6333 \@currentHref\Hy@dth@currentHref
6334 }\hyper@anchorend
6335 }%
6336 \fi
6337 \unhbox\@labels
6338 \fi
6339 \if@nobreak
6340 \@nobreakfalse \clubpenalty\@M
6341 \else
6342 \clubpenalty\@clubpenalty \everypar{}%
6343 \fi
6344 }%
6345 }{}

```

## 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.

```

6346 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
6347 \ifHy@hyperfootnotes
6348 \newcounter{Hfootnote}%
6349 \let\H@@footnotetext\@footnotetext
6350 \let\H@@footnotemark\@footnotemark
6351 \def\@xfootnotenext[#1]{%
6352 \begingroup
6353 \csname c@\@mpfn\endcsname #1\relax
6354 \unrestored@protected@xdef\@thefnmark{\thempfn}%
6355 \endgroup
6356 \ifx\@footnotetext\@mpfootnotetext
6357 \expandafter\H@@mpfootnotetext
6358 \else
6359 \expandafter\H@@footnotetext
6360 \fi
6361 }%
6362 \def\@xfootnotemark[#1]{%
6363 \begingroup
6364 \c@footnote #1\relax
6365 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6366 \endgroup
6367 \H@@footnotemark
6368 }%
6369 \let\H@@mpfootnotetext\@mpfootnotetext

```

```

6370 \long\def\@mpfootnotetext#1{%
6371   \H@@mpfootnotetext{%
6372     \ifHy@nesting
6373       \expandafter\hyper@@anchor\expandafter{%
6374         \Hy@footnote@currentHref
6375       }{#1}%
6376     \else
6377       \Hy@raisedlink{%
6378         \expandafter\hyper@@anchor\expandafter{%
6379           \Hy@footnote@currentHref
6380         }{\relax}%
6381       }#1%
6382     \fi
6383   }%
6384 }%
6385 \long\def\@footnotetext#1{%
6386   \H@@footnotetext{%
6387     \ifHy@nesting
6388       \expandafter\hyper@@anchor\expandafter{%
6389         \Hy@footnote@currentHref
6390       }{#1}%
6391     \else
6392       \Hy@raisedlink{%
6393         \expandafter\hyper@@anchor\expandafter{%
6394           \Hy@footnote@currentHref
6395         }{\relax}%
6396       }%
6397       \let\@currentHref\Hy@footnote@currentHref
6398       \let\@currentlabelname\@empty
6399       #1%
6400     \fi
6401   }%
6402 }%

```

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.

```

6403 \def\@footnotemark{%
6404   \leavevmode
6405   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
6406   \stepcounter{Hfootnote}%
6407   \global\let\Hy@saved@currentHref\@currentHref
6408   \hyper@makecurrent{Hfootnote}%
6409   \global\let\Hy@footnote@currentHref\@currentHref
6410   \global\let\@currentHref\Hy@saved@currentHref
6411   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
6412   \@makefnmark
6413   \hyper@linkend
6414   \ifhmode\spacefactor\x@sf\fi
6415   \relax
6416 }%

```

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

```

6417 \@ifpackageloaded{longtable}{%

```

```

6418 \CheckCommand*{\LT@p@ftntext}[1]{%
6419 \edef\@tempa{%
6420 \the\LT@p@ftn
6421 \noexpand\footnotetext[\the\c@footnote]%
6422 }%
6423 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
6424 }%
6425 \long\def\LT@p@ftntext#1{%
6426 \edef\@tempa{%
6427 \the\LT@p@ftn
6428 \begingroup
6429 \noexpand\c@footnote=\the\c@footnote\relax
6430 \noexpand\protected@xdef
6431 \noexpand\@thefnmark{\noexpand\thempfn}%
6432 \noexpand\protected@xdef\noexpand\@thefnmark{%
6433 \noexpand\thempfn
6434 }%
6435 \expandafter\noexpand\expandafter\Hy@LT@footnotetext
6436 \expandafter{%
6437 \Hy@footnote@currentHref
6438 }%
6439 }%
6440 \global\LT@p@ftn\expandafter{%
6441 \@tempa{#1}%
6442 \endgroup
6443 }%
6444 }%
6445 \long\def\Hy@LT@footnotetext#1#2{%
6446 \H@@@footnotetext{%
6447 \ifHy@nesting
6448 \hyper@@anchor{#1}{#2}%
6449 \else
6450 \Hy@raisedlink{%
6451 \hyper@@anchor{#1}{\relax}%
6452 }%
6453 \def\@currentHref{#1}%
6454 \let\@currentlabelname\@empty
6455 #2%
6456 \fi
6457 }%
6458 }%
6459 }{}%

```

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

```

6460 \@ifpackageloaded{fancyvrb}{%
6461 \def\V@@@footnotetext{%
6462 \insert\footins\bgroup
6463 \csname reset@font\endcsname
6464 \footnotesize
6465 \interlinepenalty\interfootnotelinepenalty
6466 \splittopskip\footnotesep
6467 \splitmaxdepth\dp\strutbox
6468 \floatingpenalty \@MM
6469 \hsize\columnwidth
6470 \@parboxrestore
6471 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
6472 \@makefntext{}%
6473 \rule{\z@}{\footnotesep}%

```

```

6474 \bgroup
6475 \aftergroup\V@@@footnotetext
6476 \Hy@raisedlink{%
6477   \expandafter\hyper@@anchor\expandafter{%
6478     \Hy@footnote@currentHref
6479   }\relax}%
6480 }%
6481 \let\@currentHref\Hy@footnote@currentHref
6482 \let\@currentlabelname\@empty
6483 \ignorespaces
6484 }%
6485 }{}%

```

KOMA-Script defines `\footref` that uses both `\ref` and `\@footnotemark` resulting in two links, one of them wrong.

```

6486 \def\Hy@temp#1{%
6487   \begingroup
6488     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6489   \endgroup
6490   \@footnotemark
6491 }%
6492 \ifx\Hy@temp\footref
6493   \def\footref#1{%
6494     \begingroup
6495       \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6496     \endgroup
6497     \H@@@footnotemark
6498   }%
6499 \fi

```

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.

```

6500 \let\HyOrg@maketitle\maketitle
6501 \def\maketitle{%
6502   \let\Hy@saved@footnotemark\@footnotemark
6503   \let\Hy@saved@footnotetext\@footnotetext
6504   \let\@footnotemark\H@@@footnotemark
6505   \let\@footnotetext\H@@@footnotetext
6506   \ifnextchar[\Hy@maketitle@optarg{% ]
6507     \HyOrg@maketitle
6508     \Hy@maketitle@end
6509   }%
6510 }%
6511 \def\Hy@maketitle@optarg[#1]{%
6512   \HyOrg@maketitle[{#1}]%
6513   \Hy@maketitle@end
6514 }%
6515 \def\Hy@maketitle@end{%
6516   \ifx\@footnotemark\H@@@footnotemark
6517     \let\@footnotemark\Hy@saved@footnotemark
6518   \fi
6519   \ifx\@footnotetext\H@@@footnotetext
6520     \let\@footnotetext\Hy@saved@footnotetext
6521   \fi
6522 }%

```

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

```

6523 \def\realfootnote{%

```



```

6524 \ifnextchar[\@xfootnote{%
6525 \stepcounter{\@mpfn}%
6526 \protected@xdef\@thefnmark{\thempfn}%
6527 \H@footnotemark\H@footnotetext
6528 }%
6529 }%

6530 \fi
6531 \Hy@DisableOption{hyperfootnotes}

6532 \</package>
6533 \< *check>
6534 \checklatex
6535 \checkcommand\def\@xfootnotenext[#1]{%
6536 \begingroup
6537 \csname c@\@mpfn\endcsname #1\relax
6538 \unrestored@protected@xdef\@thefnmark{\thempfn}%
6539 \endgroup
6540 \@footnotetext
6541 }
6542 \checkcommand\def\@xfootnotemark[#1]{%
6543 \begingroup
6544 \c@footnote #1\relax
6545 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6546 \endgroup
6547 \@footnotemark
6548 }
6549 \checkcommand\def\@footnotemark{%
6550 \leavevmode
6551 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
6552 \@makefnmark
6553 \ifhmode\spacefactor\@x@sf\fi
6554 \relax
6555 }
6556 \</check>
6557 \< *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.

```

6558 \def\caption{%
6559 \ifx\@captype\@undefined
6560 \latexerror{\noexpand\caption outside float}\@ehd
6561 \expandafter\@gobble
6562 \else
6563 \H@refstepcounter\@captype
6564 \let\Hy@tempa\@caption
6565 \ifundefined{float@caption}{%
6566 }{%
6567 \expandafter\ifx\csname @float@c@\@captype\endcsname
\float@caption
6568 \let\Hy@tempa\Hy@float@caption
6569 \fi
6570 }%
6571 }%
6572 \expandafter\@firstofone
6573 \fi

```

```

6574 {\@dblarg{\Hy@tempa\@capttype}}%
6575 }
6576 \long\def\@caption#1[#2]#3{%
6577 \expandafter\ifx\csname if@capstart\expandafter\endcsname
6578 \csname iftrue\endcsname
6579 \global\let\@currentHref\hc@currentHref
6580 \else
6581 \hyper@makecurrent{\@capttype}%
6582 \fi
6583 \@ifundefined{NR@gettitle}{%
6584 \def\@currentlabelname{#2}%
6585 }{%
6586 \NR@gettitle{#2}%
6587 }%
6588 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
6589 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6590 }%
6591 \begingroup
6592 \@parboxrestore
6593 \if@minipage
6594 \@setminipage
6595 \fi
6596 \normalsize
6597 \expandafter\ifx\csname if@capstart\expandafter\endcsname
6598 \csname iftrue\endcsname
6599 \global\@capstartfalse
6600 \makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
6601 \else
6602 \makecaption{\csname fnum@#1\endcsname}{%
6603 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

6604 \ifHy@nesting
6605 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
6606 \else
6607 \Hy@raisedlink{%
6608 \expandafter\hyper@@anchor\expandafter{%
6609 \@currentHref
6610 }\relax}%
6611 }%
6612 #3%
6613 \fi
6614 }%
6615 \fi
6616 \par
6617 \endgroup
6618 }

```

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.

```

6619 \let\Hy@float@caption\@caption
6620 \@ifpackageloaded{float}{%
6621 \def\Hy@float@caption{%
6622 \ifx\Hy@float@currentHref\@undefined
6623 \hyper@makecurrent{\@capttype}%
6624 \global\let\Hy@float@currentHref\@currentHref
6625 \else
6626 \let\@currentHref\Hy@float@currentHref

```

```

6627 \fi
6628 \float@caption
6629 }%
6630 \let\HyOrg@float@makebox\float@makebox
6631 \renewcommand{\float@makebox}[1]{%
6632 \HyOrg@float@makebox{%
6633 #1\relax
6634 \ifx\Hy@float@currentHref\@undefined
6635 \else
6636 \expandafter\hyper@@anchor\expandafter{%
6637 \Hy@float@currentHref
6638 }\relax}%
6639 \global\let\Hy@float@currentHref\@undefined
6640 \fi
6641 }%
6642 }%
6643 }{}

6644 \endpackage
6645 \ifcheck
6646 \checklatex[1999/06/01 - 2000/06/01]
6647 \checkcommand\def\caption{%
6648 \ifx\@capttype\@undefined
6649 \@latex@error{\noexpand\caption outside float}\@ehd
6650 \expandafter\@gobble
6651 \else
6652 \refstepcounter\@capttype
6653 \expandafter\@firstofone
6654 \fi
6655 {\@dblarg{\@caption\@capttype}}%
6656 }
6657 \checkcommand\long\def\@caption#1[#2]#3{%
6658 \par
6659 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
6660 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6661 }%
6662 \begingroup
6663 \@parboxrestore
6664 \if@minipage
6665 \@setminipage
6666 \fi
6667 \normalsize
6668 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
6669 \endgroup
6670 }
6671 \endcheck
6672 \ifcheck

```

## 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 *drficite* 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.

```

6673 \def\hyper@natlinkstart#1{%
6674   \Hy@backout{#1}%
6675   \hyper@linkstart{cite}{cite.#1}%
6676   \def\hyper@nat@current{#1}%
6677 }
6678 \def\hyper@natlinkend{%
6679   \hyper@linkend
6680 }
6681 \def\hyper@natlinkbreak#1#2{%
6682   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
6683 }
6684 \def\hyper@natanchorstart#1{%
6685   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
6686 }
6687 \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.

```

6688 \ltx@ifundefined{NAT@parse}{%
6689   \providecommand*\extra@binfo{}%
6690   \providecommand*\extra@b@citeb{}%
6691   \def\bibcite#1#2{%
6692     \@newl@bel{b}{#1\extra@binfo}{%
6693       \hyper@link{cite}{cite.#1\extra@b@citeb}{#2}%
6694     }%
6695   }%
6696   \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.”.

```

6697 \let\Hy@bibcite\bibcite
6698 \begingroup
6699   \@ifundefined{bbl@cite@choice}{}{%
6700     \g@addto@macro\bbl@cite@choice{%
6701       \let\bibcite\Hy@bibcite
6702     }%
6703   }%
6704 \endgroup

```

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

```

6705 \providecommand*\@BIBLABEL{\@biblabel}%
6706 \def\@lbibitem[#1]#2{%
6707   \@skiphyperreftrue
6708   \H@item[%
6709     \ifx\Hy@raisedlink\@empty
6710       \hyper@anchorstart{cite.#2\extra@b@citeb}%
6711       \@BIBLABEL{#1}%
6712     \hyper@anchorend
6713   \else
6714     \Hy@raisedlink{%
6715       \hyper@anchorstart{cite.#2\extra@b@citeb}\hyper@anchorend
6716     }%
6717     \@BIBLABEL{#1}%
6718   \fi

```

```

6719 \hfill
6720 ]%
6721 \@skiphyperreffalse
6722 \if@filesw
6723 \begingroup
6724 \let\protect\noexpand
6725 \immediate\write\@auxout{%
6726 \string\bibcite{#2}-{#1}%
6727 }%
6728 \endgroup
6729 \fi
6730 \ignorespaces
6731 }%

```

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

```

6732 \def\@bibitem#1{%
6733 \@skiphyperrefftrue\H@item\@skiphyperreffalse
6734 \Hy@raisedlink{%
6735 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
6736 }%
6737 \if@filesw
6738 \begingroup
6739 \let\protect\noexpand
6740 \immediate\write\@auxout{%
6741 \string\bibcite{#1}{\the\value{\@listctr}}}%
6742 }%
6743 \endgroup
6744 \fi
6745 \ignorespaces
6746 }%
6747 }{}
6748 \</package>
6749 \<*check>
6750 \checklatex
6751 \checkcommand\def\@lbibitem[#1]#2{%
6752 \item[\@biblabel{#1}]\hfill}%
6753 \if@filesw
6754 {%
6755 \let\protect\noexpand
6756 \immediate\write\@auxout{%
6757 \string\bibcite{#2}-{#1}%
6758 }%
6759 }%
6760 \fi
6761 \ignorespaces
6762 }
6763 \checkcommand\def\@bibitem#1{%
6764 \item
6765 \if@filesw
6766 \immediate\write\@auxout{%
6767 \string\bibcite{#1}{\the\value{\@listctr}}}%
6768 }%
6769 \fi
6770 \ignorespaces
6771 }
6772 \</check>
6773 \<*package>

```

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

```

6774 \ifclassloaded{revtex}{%
6775 \Hy@Info{*** compatibility with revtex **** }%
6776 \def\revtex@checking#1#2{%
6777 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
6778 \expandafter\def\csname b@#1\endcsname{#2}%
6779 \@SetMaxRnhefLabel{#1}%
6780 \expandafter\let\csname b@#1\endcsname\T@temp
6781 }%

```

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

```

6782 \@ifundefined{CITE}{\def\CITE{\cite}}{}%
6783 \providecommand*{\@extra@b@citeb}{}%
6784 \def\CITEX[#1]#2{%
6785 \let\@citea\@empty
6786 \leavevmode
6787 \unskip
6788 $\sim$%
6789 \scriptstyle
6790 \@CITE{%
6791 \for\@citeb:=#2\do{%
6792 \citea
6793 \def\@citea{,\penalty\@m\ }%
6794 \edef\@citeb{\expandafter\@firstofone\@citeb}%
6795 \if@filesw
6796 \immediate\write\@auxout{\string\citation{\@citeb}}%
6797 \fi
6798 \@ifundefined{b@\@citeb\extra@b@citeb}{%
6799 \mbox{\reset@font\bfseries ?}%
6800 \G@refundefinedtrue
6801 \@latex@warning{%
6802 Citation '\@citeb' on page \thepage \space undefined%
6803 }%
6804 }{%
6805 {\csname b@\@citeb\@extra@b@citeb\endcsname}%
6806 }%
6807 }%
6808 }{#1}%
6809 }$%
6810 }%

```

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

```

6811 \def\@citex[#1]#2{%
6812 \let\@citea\@empty
6813 \@cite{%
6814 \for\@citeb:=#2\do{%
6815 \citea
6816 \def\@citea{,\penalty\@m\ }%
6817 \edef\@citeb{\expandafter\@firstofone\@citeb}%
6818 \if@filesw
6819 \immediate\write\@auxout{\string\citation{\@citeb}}%
6820 \fi
6821 \@ifundefined{b@\@citeb\@extra@b@citeb}{%
6822 \mbox{\reset@font\bfseries ?}%

```

```

6823 \G@refundefinedtrue
6824 \@latex@warning{%
6825 Citation '\@citeb' on page \thepage \space undefined%
6826 }%
6827 }{%
6828 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
6829 }%
6830 }%
6831 }{#1}%
6832 }%
6833 }{}

```

### 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.

```

6834 \ifpackageloaded{harvard}{%
6835 \Hy@AtBeginDocument{%
6836 \Hy@Info{*** compatibility with harvard **** }%
6837 \Hy@raiselinksfalse
6838 \def\harvardcite#1#2#3#4{%
6839 \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{}{cite.#1}{#2}}%
6840 \global\@namedef{HAR@an@#1}{\hyper@link[cite]{}{cite.#1}{#3}}%
6841 \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{}{cite.#1}{#4}}%
6842 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
6843 }%
6844 \def\HAR@citetoaux#1{%
6845 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
6846 \ifHy@backref
6847 \ifx\@empty\@currentlabel
6848 \else
6849 \@bsphack
6850 \if@filesw
6851 \protected@write\@auxout{}{%
6852 \string\@writefile{brf}{%
6853 \string\backcite{#1}{%
6854 {\thepage}{\@currentlabel}{\@currentHref}%
6855 }%
6856 }%
6857 }%
6858 \fi
6859 \@esphack
6860 \fi
6861 \fi
6862 }%
6863 \def\harvarditem{%
6864 \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
6865 }%
6866 \def\@harvarditem[#1]#2#3#4#5\par{%
6867 \item[]%
6868 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6869 \if@filesw

```

```

6870 \begingroup
6871 \def\protect##1{\string ##1\space}%
6872 \ifthenelse{\equal{#1}{\null}}{%
6873   {\def\next{{#4}{#2}{#2}{#3}}}%
6874   {\def\next{{#4}{#2}{#1}{#3}}}%
6875 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6876 \endgroup
6877 \fi
6878 \protect\hspace*{-\labelwidth}%
6879 \protect\hspace*{-\labelsep}%
6880 \ignorespaces
6881 #5%
6882 \ifHy@backref
6883   \newblock
6884   \backref{\csname br@#4\endcsname}%
6885 \fi
6886 \par
6887 }%

```

\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:

```

6888 \long\def\HAR@checkcitations#1#2#3#4{%
6889   \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
6890   \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6891     \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
6892     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6893       \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
6894       \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6895         \else
6896           \@tempswatrue
6897         \fi
6898       \else
6899         \@tempswatrue
6900       \fi
6901     \else
6902       \@tempswatrue
6903     \fi
6904   }%
6905 }%
6906 }{}

```

## 37.2 Package chicago

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

```

6907 \@ifpackageloaded{chicago}{%

```

\citeN

```

6908 \def\citeN{%
6909   \def\@citesep{-1000}%
6910   \def\@cite##1##2{##1}%
6911   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
6912   \@citedata@opt
6913 }%

```



\shortciteN

```
6914 \def\shortciteN{%
6915   \def\@citesep{-1000}%
6916   \def\@cite##1##2{##1}%
6917   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
6918   \@citedata@opt
6919 }%
```

\@citedata@opt

```
6920 \def\@citedata@opt{%
6921   \let\@cite@opt\@empty
6922   \@ifnextchar [{%
6923     \@tempswatrue
6924     \@citedatax@opt
6925   }{%
6926     \@tempswafalse
6927     \@citedatax[]%
6928   }%
6929 }%
```

\@citedatax@opt

```
6930 \def\@citedatax@opt[#1]{%
6931   \def\@cite@opt{, #1}%
6932   \@citedatax[{#1}]%
6933 }%

6934 }{}
```

## 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.

```
6935 \def\Hy@EveryPageAnchor{%
6936   \Hy@DistillerDestFix
6937   \ifHy@pageanchor
6938     \ifHy@hypertextnames
6939       \ifHy@plainpages
6940         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
6941       \else
6942         \begingroup
6943         \let\@number\@firstofone
6944         \Hy@unicodedefalse
6945         \pdfstringdef\@the@H@page{\thepage}%
6946         \endgroup
6947         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
6948       \fi
6949     \else
6950       \Hy@GlobalStepCount\Hy@pagecounter
6951       \def\Hy@TempPageAnchor{%
6952         \hyper@@anchor{page.\the\Hy@pagecounter}%
6953       }%
```

```

6954 \fi
6955 \vbox to 0pt{%
6956 \kern\voffset
6957 \kern\topmargin
6958 \kern-1bp\relax
6959 \hbox to 0pt{%
6960 \kern\hoffset
6961 \kern\ifodd\value{page}%
6962 \oddsidemargin
6963 \else
6964 \evensidemargin
6965 \fi
6966 \kern-1bp\relax
6967 \Hy@TempPageAnchor
6968 \hss
6969 }%
6970 \vss
6971 }%
6972 \fi
6973 }
6974 \g@addto@macro\Hy@EveryPageBoxHook{%
6975 \Hy@EveryPageAnchor
6976 }

```

## 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.

```

6977 \def\addcontentsline#1#2#3{% toc extension, type, tag
6978 \begingroup
6979 \let\label\@gobble
6980 \ifx\@currentHref\@empty
6981 \Hy@Warning{%
6982 No destination for bookmark of \string\addcontentsline,%
6983 \MessageBreak destination is added%
6984 }%
6985 \phantomsection
6986 \fi
6987 \expandafter\ifx\csname toplevel@#2\endcsname\relax
6988 \begingroup
6989 \def\Hy@tempa{#1}%
6990 \ifx\Hy@tempa\Hy@bookmarkstype
6991 \Hy@WarningNoLine{%
6992 bookmark level for unknown #2 defaults to 0%
6993 }%
6994 \else
6995 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6996 \fi
6997 \endgroup
6998 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6999 \fi
7000 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
7001 \Hy@writebookmark{\csname the#2\endcsname}%
7002 {#3}%
7003 {\@currentHref}%

```

```

7004     {\Hy@toclevel}%
7005     {#1}%
7006 \ifHy@verbose
7007   \begingroup
7008     \def\Hy@tempa{#3}%
7009     \@onelevel@sanitize\Hy@tempa
7010     \let\temp@online\on@line
7011     \let\on@line\@empty
7012     \Hy@Info{%
7013       bookmark\temp@online:\MessageBreak
7014       thecounter {\csname the#2\endcsname}\MessageBreak
7015       text {\Hy@tempa}\MessageBreak
7016       reference {\@currentHref}\MessageBreak
7017       toclevel {\Hy@toclevel}\MessageBreak
7018       type {#1}%
7019     }%
7020   \endgroup
7021 \fi
7022 \addtocontents{#1}{%
7023   \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7024 }%
7025 \endgroup
7026 }
7027 \def\contentsline#1#2#3#4{%
7028   \ifx\\#4\\%
7029     \csname l@#1\endcsname{#2}{#3}%
7030   \else
7031     \ifcase\Hy@linktoc % none
7032       \csname l@#1\endcsname{#2}{#3}%
7033     \or % section
7034       \csname l@#1\endcsname{%
7035         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7036       }{#3}%
7037     \or % page
7038       \csname l@#1\endcsname{{#2}}{%
7039         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7040       }%
7041     \else % all
7042       \csname l@#1\endcsname{%
7043         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7044       }{%
7045         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7046       }%
7047     \fi
7048   \fi
7049 }
7050 \end{package}
7051 \check
7052 \checklatex
7053 \checkcommand\def\addcontentsline#1#2#3{%
7054   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7055 }
7056 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7057 \end{check}
7058 \end{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.

```
7059 \let\H@definecounter\@definecounter
7060 \def\@definecounter#1{%
7061   \H@definecounter{#1}%
7062   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7063 }
```

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.

```
7064 \let\H@newctr\@newctr
7065 \def\@newctr#1[#2]{%
7066   \H@newctr#1[{#2}]%
7067   \expandafter\def\csname theH#1\endcsname{%
7068     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7069   }%
7070 }
```

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

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

Version 6.77p uses a patch by Ross Moore.

```
7071 \ifpackageloaded{amsmath}{%
7072   \def\Hy@make@anchor{%
7073     \Hy@MakeCurrentHrefAuto{AMS}%
7074     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7075   }%
7076   \def\Hy@make@df@tag@@#1{%
7077     \gdef\df@tag{%
7078       \maketag@@@{\Hy@make@anchor#1}%
7079       \def\@currentlabel{#1}%
7080     }%
7081   }%
7082   \def\Hy@make@df@tag@@@#1{%
7083     \gdef\df@tag{%
7084       \tagform@{\Hy@make@anchor#1}%
7085       \toks@{\xp{p@equation{#1}}}%
7086       \edef\@currentlabel{\the\toks@}%
7087     }%
7088   }%
7089   \let\HyOrg@make@df@tag@@\make@df@tag@@
7090   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
7091   \let\make@df@tag@@\Hy@make@df@tag@@
7092   \let\make@df@tag@@@\Hy@make@df@tag@@@
7093 }
```

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

```
7094 \ifpackagewith{hyperref}{pdf $\text{\TeX}$ }{%
7095   \let\H@seteqlabel\@seteqlabel
```

```

7096 \def\@seteqlabel#1{%
7097   \H\@seteqlabel{#1}%
7098   \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
7099   \Hy@raisedlink{%
7100     \hyper@anchorstart{\@currentHref}\hyper@anchorend
7101   }%
7102 }%
7103 }{}

```

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.

```

7104 \let\HyOrg@addtoreset\@addtoreset
7105 \def\@addtoreset#1#2{%
7106   \HyOrg@addtoreset{#1}{#2}%
7107   \expandafter\xdef\csname theH#1\endcsname{%
7108     \expandafter\noexpand
7109     \csname the\@ifundefined{theH#2}{H#2}\endcsname
7110     .\noexpand\the\noexpand\value{#1}%
7111   }%
7112 }

```

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

```

7113 </package>
7114 <*check>
7115 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
7116 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
7117   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7118     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7119       \@addtoreset{#2}{#3}%
7120       \exp\xdef\csname the#2\endcsname{%
7121         \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7122       }%
7123     }%
7124   }%
7125 }%
7126 </check>
7127 <*package>
7128 \ifpackageloaded{amsmath}{%
7129   \ifpackagelater{amsmath}{1999/12/14}{%
7130     \renewcommand*\numberwithin[3][\arabic]{%
7131       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7132         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7133           \HyOrg@addtoreset{#2}{#3}%

```

```

7134 \exp\xdef\csname the#2\endcsname{%
7135 \exp\xnx\csname the#3\endcsname .\@nx#1{#2}%
7136 }%
7137 \exp\xdef\csname theH#2\endcsname{%
7138 \exp\xnx
7139 \csname the\@ifundefined{theH#3}{H#3\endcsname
7140 .\@nx#1{#2}%
7141 }%
7142 }%
7143 }%
7144 }%
7145 }{%
7146 \Hy@WarningNoLine{%
7147 \string\numberwithin\space of package ‘amsmath’ %
7148 only fixed\MessageBreak
7149 for version 2000/06/06 v2.12 or newer%
7150 }%
7151 }%
7152 }{}

```

## 42 Included figures

Simply intercept the low level graphics package macro.

```

7153 \ifHy@figures
7154 \let\Hy@Gin@setfile\Gin@setfile
7155 \def\Gin@setfile#1#2#3{%
7156 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7157 }%
7158 \fi
7159 \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.

```

7160 \ifHy@hyperindex
7161 \def\HyInd@ParenLeft{({}%
7162 \def\HyInd@ParenRight{)}}%
7163 \def\hyperindexformat#1#2{%
7164 \let\HyOrg@hyperpage\hyperpage
7165 \let\hyperpage\@firstofone
7166 #1{\HyOrg@hyperpage{#2}}%
7167 \let\hyperpage\HyOrg@hyperpage
7168 }%
7169 \Hy@nextfalse
7170 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
7171 \@ifpackageloaded{index}{\Hy@nexttrue}{}%

```

```

7172 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
7173 \begingroup
7174 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
7175 \lccode'\|/\|=\relax
7176 \lowercase{\endgroup
7177 \ifHy@next
7178 \let\HyInd@org@wrindex\@wrindex
7179 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
7180 \def\HyInd@@wrindex#1#2|#3|#4\{\%
7181 \ifx\|#3\%
7182 \HyInd@org@wrindex{#1}{#2|hyperpage}%
7183 \else
7184 \HyInd@@@wrindex{#1}{#2}#3\%
7185 \fi
7186 }%
7187 \def\HyInd@@@wrindex#1#2#3#4\{\%
7188 \def\Hy@temp@A{#3}%
7189 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7190 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7191 \relax
7192 \HyInd@org@wrindex{#1}{%
7193 #2|hyperindexformat{/#3#4}%
7194 }%
7195 \else
7196 \ifx\|#4\%
7197 \ifx\Hy@temp@A\HyInd@ParenRight
7198 \HyInd@org@wrindex{#1}{#2|#3}%
7199 \else
7200 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
7201 \fi
7202 \else
7203 \HyInd@org@wrindex{#1}{%
7204 #2|#3hyperindexformat{/#4}%
7205 }%
7206 \fi
7207 \fi
7208 }%
7209 \else
7210 \def\@wrindex#1{\@@wrindex#1||\}%
7211 \def\@@wrindex#1|#2|#3\{\%
7212 \if@filesw
7213 \ifx\|#2\%
7214 \protected@write\@indexfile{}\%
7215 \string\indexentry{#1|hyperpage}{\thepage}%
7216 }%
7217 \else
7218 \HyInd@@@wrindex{#1}#2\%
7219 \fi
7220 \fi
7221 \endgroup
7222 \@esphack
7223 }%
7224 \def\HyInd@@@wrindex#1#2#3\{\%
7225 \def\Hy@temp@A{#2}%
7226 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7227 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7228 \relax

```

```

7229 \protected@write\@indexfile{}\{%
7230 \string\indexentry{%
7231 #1|hyperindexformat{/#2#3}%
7232 }\thepage}%
7233 }%
7234 \else
7235 \ifx\#3\%
7236 \ifx\Hy@temp@A\HyInd@ParenRight
7237 \protected@write\@indexfile{}\{%
7238 \string\indexentry{#1|#2}\thepage}%
7239 }%
7240 \else
7241 \protected@write\@indexfile{}\{%
7242 \string\indexentry{#1|#2hyperpage}\thepage}%
7243 }%
7244 \fi
7245 \else
7246 \protected@write\@indexfile{}\{%
7247 \string\indexentry{%
7248 #1|#2hyperindexformat{/#3}%
7249 }\thepage}%
7250 }%
7251 \fi
7252 \fi
7253 }%
7254 \fi
7255 }%
7256 \fi
7257 \Hy@DisableOption{hyperindex}
7258 \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.

```

7259 \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.

```

7260 \def\hyperpage#1{%
7261 \HyInd@hyperpage#1\nohyperpage{}\@nil
7262 }
7263 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
7264 \HyInd@@hyperpage{#1}%
7265 #2%
7266 \def\Hy@temp{#3}%
7267 \ifx\Hy@temp\@empty
7268 \else
7269 \Hy@ReturnAfterFi{%
7270 \HyInd@hyperpage#3\@nil
7271 }%
7272 \fi
7273 }
7274 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
7275 \def\@hyperpage#1--#2--#3\{%
7276 \ifx\#2\%
7277 \@commahyperpage{#1}%
7278 \else
7279 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%

```



```

7280 \fi
7281 }
7282 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
7283 \def\@commahyperpage#1, #2,#3\{\%
7284 \ifx\#2\%
7285 \HyInd@pagelink{#1}%
7286 \else
7287 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
7288 \fi
7289 }

```

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

```

7290 \def\HyInd@pagelink#1{%
7291 \begingroup
7292 \toks@={}%
7293 \HyInd@removespaces#1 \@nil
7294 \endgroup
7295 }
7296 \def\HyInd@removespaces#1 #2\@nil{%
7297 \toks@=\expandafter{\the\toks@#1}%
7298 \ifx\#2\%
7299 \edef\x{\the\toks@}%
7300 \ifx\x\@empty
7301 \else
7302 \hyperlink{page.\the\toks@}{\the\toks@}%
7303 \fi
7304 \else
7305 \Hy@ReturnAfterFi{%
7306 \HyInd@removespaces#2\@nil
7307 }%
7308 \fi
7309 }

```

## 44 Compatibility with foiltex

```

7310 \@ifclassloaded{foils}{%
7311 \providecommand*\ext@table{lot}%
7312 \providecommand*\ext@figure{lof}%
7313 }{}

```

## 45 Compatibility with seminar slide package

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

```

7314 \@ifclassloaded{seminar}{%
7315 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
7316 }{%
7317 \Hy@seminarslidesfalse
7318 }
7319 \@ifpackageloaded{slidesec}{%
7320 \newcommand\theHslidesection {\arabic{slidesection}}%
7321 \newcommand\theHslidesubsection{%
7322 \theHslidesection.\arabic{slidesubsection}}%
7323 }%
7324 \def\slide@heading[#1]#2{%

```

```

7325 \H@refstepcounter{slidesection}%
7326 \@addtoreset{slidesubsection}{slidesection}%
7327 \addtocontents{los}{%
7328   \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
7329   {\@SCTR}{slideheading.\theslidesection}%
7330 }%
7331 \def\Hy@tempa{#2}%
7332 \ifx\Hy@tempa\@empty
7333 \else
7334 {%
7335   \edef\@currentlabel{%
7336     \csname p@slidesection\endcsname\theslidesection
7337   }%
7338   \makeslideheading{#2}%
7339 }%
7340 \fi
7341 \gdef\theslideheading{#1}%
7342 \gdef\theslidesubheading{}%
7343 \ifHy@bookmarksnumbered
7344   \def\Hy@slidetitle{\theslidesection\space #1}%
7345 \else
7346   \def\Hy@slidetitle{#1}%
7347 \fi
7348 \ifHy@hypertextnames
7349   \ifHy@naturalnames
7350     \hyper@@anchor{slideheading.\theslidesection}{\relax}%
7351     \Hy@writebookmark
7352       {\theslidesection}%
7353       {\Hy@slidetitle}%
7354       {slideheading.\theslidesection}%
7355       {1}%
7356       {toc}%
7357   \else
7358     \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
7359     \Hy@writebookmark
7360       {\theslidesection}%
7361       {\Hy@slidetitle}%
7362       {slideheading.\theHslidesection}%
7363       {1}%
7364       {toc}%
7365   \fi
7366 \else
7367   \Hy@GlobalStepCount\Hy@linkcounter
7368   \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7369   \Hy@writebookmark
7370     {\theslidesection}%
7371     {\Hy@slidetitle}%
7372     {slideheading.\the\Hy@linkcounter}%
7373     {1}%
7374     {toc}%
7375 \fi
7376 }%
7377 \def\slide@subheading[#1]#2{%
7378   \H@refstepcounter{slidesubsection}%
7379   \addtocontents{los}{%
7380     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
7381     {\@SCTR}{slideheading.\theslidesubsection}%

```

```

7382 }%
7383 \def\Hy@tempa{#2}%
7384 \ifx\Hy@tempa\@empty
7385 \else
7386 {%
7387   \edef\@currentlabel{%
7388     \csname p@slidessubsection\endcsname\theslidessubsection
7389   }%
7390   \makeslidesubheading{#2}%
7391 }%
7392 \fi
7393 \gdef\theslidesubheading{#1}%
7394 \ifHy@bookmarksnumbered
7395   \def\Hy@slidetitle{\theslidessubsection\space #1}%
7396 \else
7397   \def\Hy@slidetitle{#1}%
7398 \fi
7399 \ifHy@hypertextnames
7400   \ifHy@naturalnames
7401     \hyper@@anchor{slideheading.\theslidessubsection}{\relax}%
7402     \Hy@writebookmark
7403       {\theslidessubsection}%
7404       {\Hy@slidetitle}%
7405       {slideheading.\theslidessubsection}%
7406       {2}%
7407       {toc}%
7408   \else
7409     \hyper@@anchor{slideheading.\theHslidessubsection}{\relax}%
7410     \Hy@writebookmark
7411       {\theslidessubsection}%
7412       {\Hy@slidetitle}%
7413       {slideheading.\theHslidessubsection}%
7414       {2}%
7415       {toc}%
7416   \fi
7417 \else
7418   \Hy@GlobalStepCount\Hy@linkcounter
7419   \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7420   \Hy@writebookmark
7421     {\theslidessubsection}%
7422     {\Hy@slidetitle}%
7423     {slideheading.\the\Hy@linkcounter}%
7424     {1}%
7425     {toc}%
7426 \fi
7427 }%
7428 \providecommand*{\listslidenam}{List of Slides}%
7429 \def\listofslides{%
7430   \section*{%
7431     \listslidenam
7432     \@mkboth{%
7433       \expandafter\MakeUppercase\listslidenam
7434     }{%
7435       \expandafter\MakeUppercase\listslidenam
7436     }%
7437   }%
7438   \def\l@slide##1##2##3##4{%

```

```

7439 \slide@undottedcline{%
7440 \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
7441 }{}%
7442 }%
7443 \let\l@subslide\l@slide
7444 \@startlos
7445 }%
7446 \def\slide@contents{%
7447 \def\l@slide##1##2##3##4{%
7448 \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
7449 }%
7450 \let\l@subslide\@gobblefour
7451 \@startlos
7452 }%
7453 \def\Slide@contents{%
7454 \def\l@slide##1##2##3##4{%
7455 \ifcase\lslide@flag
7456 \message{##1 ** \the\c@slidesection}%
7457 \ifnum##1>\c@slidesection
7458 \def\lslide@flag{1}%
7459 {%
7460 \large
7461 \slide@cline{%
7462 \slidenumberline{$\Rightarrow\bullet$}%
7463 {\hyperlink{##4}{##2}}}%
7464 }{##3}%
7465 }%
7466 \else
7467 {%
7468 \large
7469 \slide@cline{%
7470 \slidenumberline{$\surd\;\bullet$}%
7471 {\hyperlink{##4}{##2}}}%
7472 }{##3}%
7473 }%
7474 \fi
7475 \or
7476 \def\lslide@flag{2}%
7477 {%
7478 \large
7479 \slide@cline{%
7480 \slidenumberline{$\bullet$}%
7481 {\hyperlink{##4}{##2}}}%
7482 }{##3}%
7483 }%
7484 \or
7485 {%
7486 \large
7487 \slide@cline{%
7488 \slidenumberline{$\bullet$}%
7489 {\hyperlink{##4}{##2}}}%
7490 }{##3}%
7491 }%
7492 \fi
7493 }%
7494 \def\l@subslide##1##2##3##4{%
7495 \ifnum\lslide@flag=1 %

```

```

7496      \@undottedtoctline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
7497      \fi
7498    }%
7499    \def\lslide@flag{0}%
7500    \@startlos
7501  }%
7502 }{}

```

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.)

```

7503 \ifHy@texht
7504   \expandafter\endinput
7505 \fi
7506 \let\real@setref\@setref
7507 \def\@setref#1#2#3{% csname, extract group, refname
7508   \ifx#1\relax
7509     \protect\G@refundefinedtrue
7510     \nfss@text{\reset@font\bfseries ??}%
7511     \@latex@warning{%
7512       Reference ‘#3’ on page \thepage \space undefined%
7513     }%
7514   \else
7515     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
7516   \fi
7517 }

```

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

```

7518 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
7519   \begingroup
7520   \toks0={\hyper@@link{#5}{#4}}%
7521   \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
7522   \edef\x{\endgroup
7523     \the\toks0 {\the\toks1 }%
7524   }%
7525   \x
7526 }
7527 \def\@pagesetref#1#2#3{% csname, extract macro, ref
7528   \ifx#1\relax
7529     \protect\G@refundefinedtrue
7530     \nfss@text{\reset@font\bfseries ??}%
7531     \@latex@warning{%
7532       Reference ‘#3’ on page \thepage \space undefined%
7533     }%
7534   \else
7535     \protect\hyper@@link
7536     {\expandafter\@fifthoffive#1}%
7537     {page.\expandafter\@secondoffive#1}%
7538     {\expandafter\@secondoffive#1}%
7539   \fi
7540 }
7541 </package>
7542 <*check>
7543 \checklatex
7544 \checkcommand\def\@setref#1#2#3{%
7545   \ifx#1\relax
7546     \protect\G@refundefinedtrue

```

```

7547 \nfss@text{\reset@font\bfseries ??}%
7548 \@latex@warning{%
7549   Reference '#3' on page \thepage\space undefined%
7550 }%
7551 \else
7552   \expandafter#2#1\null
7553 \fi
7554 }
7555 \</check>
7556 \<*package>

```

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

```

7557 \def\HyRef@StarSetRef#1{%
7558   \begingroup
7559   \Hy@safe@activetrue
7560   \edef\x{#1}%
7561   \@onelevel@sanitize\x
7562   \edef\x{\endgroup
7563     \noexpand\HyRef@@StarSetRef
7564     \expandafter\noexpand\csname r@\x\endcsname{\x}%
7565   }%
7566   \x
7567 }
7568 \def\HyRef@@StarSetRef#1#2#3{%
7569   \ifx#1\@undefined
7570     \let#1\relax
7571   \fi
7572   \real@setref#1#3{#2}%
7573 }
7574 \def\@refstar#1{%
7575   \HyRef@StarSetRef{#1}\@firstoffive
7576 }
7577 \def\@pagerefstar#1{%
7578   \HyRef@StarSetRef{#1}\@secondoffive
7579 }
7580 \def\@namerefstar#1{%
7581   \HyRef@StarSetRef{#1}\@thirdoffive
7582 }
7583 \Hy@AtBeginDocument{%
7584   \@ifpackageloaded{varioref}{%
7585     \def\@Refstar#1{%
7586       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
7587     }%
7588     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
7589       \MakeUppercase#1%
7590     }%
7591     \DeclareRobustCommand*\@Ref{\Ref}%
7592     \@ifstar\@Refstar\HyRef@Ref
7593   }%
7594   \def\HyRef@Ref#1{%
7595     \hyperref[#{1}]{\Ref*{#1}}%
7596   }%
7597   \def\Vr@f#1{%
7598     \leavevmode\unskip\vref@space
7599     \hyperref[#{1}]{%
7600       \Ref*{#1}%
7601       \let\vref@space\nobreakspace

```

```

7602     \@vpageref[\unskip]{#1}%
7603   }%
7604 }%
7605 \def\vr@f#1{%
7606   \leavevmode\unskip\vref@space
7607   \begingroup
7608     \let\T@pageref\@pagerefstar
7609     \hyperref[{#1}]{%
7610       \ref*{#1}%
7611       \vpageref[\unskip]{#1}%
7612     }%
7613   \endgroup
7614 }%
7615 }{}%
7616 }
7617 \DeclareRobustCommand*\@autopageref{%
7618   \@ifstar{%
7619     \HyRef@autopagerefname\pageref*%
7620   }\HyRef@autopageref
7621 }
7622 \def\HyRef@autopageref#1{%
7623   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
7624 }
7625 \def\HyRef@autopagerefname{%
7626   \ltx@ifundefined{pageautorefname}{%
7627     \ltx@ifundefined{pagename}{%
7628       \Hy@Warning{No autoref name for 'page'}%
7629     }{%
7630       \pagename\nobreakspace
7631     }%
7632   }{}%
7633   \pageautorefname\nobreakspace
7634 }%
7635 }
7636 \DeclareRobustCommand*\@autoref{%
7637   \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
7638 }
7639 \def\HyRef@autoref#1#2{%
7640   \begingroup
7641     \Hy@safe@activetrue
7642     \expandafter\HyRef@autosetref\csize r@#2\endcsize{#2}{#1}%
7643   \endgroup
7644 }
7645 \def\HyRef@autosetref#1#2#3{% link command, csize, refname
7646   \HyRef@ShowKeysRef{#2}%
7647   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
7648     \edef\HyRef@thisref{%
7649       \expandafter\@fourthoffive#1\@empty\@empty\@empty
7650     }%
7651     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
7652     \Hy@safe@activesfalse
7653     #3{%
7654       \expandafter\@fifthoffive#1\@empty\@empty\@empty
7655     }{}%
7656     \expandafter\@fourthoffive#1\@empty\@empty\@empty
7657   }{}%
7658   \HyRef@currentHtag

```

```

7659 \expandafter\@firstoffive#1\@empty\@empty\@empty
7660 \null
7661 }%
7662 \else
7663 \protect\G@refundefinedtrue
7664 \nfss@text{\reset@font\bfseries ??}%
7665 \@latex@warning{%
7666   Reference '#2' on page \thepage\space undefined%
7667 }%
7668 \fi
7669 }
7670 \def\HyRef@testreftype#1.#2\{\%
7671 \ltx@ifundefined{#1autorefname}{\%
7672 \ltx@ifundefined{#1name}{\%
7673 \HyRef@StripStar#1\*\@nil{#1}%
7674 \ltx@ifundefined{\HyRef@name autorefname}{\%
7675 \ltx@ifundefined{\HyRef@name name}{\%
7676 \def\HyRef@currentHtag{}%
7677 \Hy@Warning{No autoref name for '#1'}%
7678 }{\%
7679 \edef\HyRef@currentHtag{%
7680 \expandafter\noexpand\csname\HyRef@name name\endcsname
7681 \noexpand~%
7682 }%
7683 }%
7684 }{\%
7685 \edef\HyRef@currentHtag{%
7686 \expandafter\noexpand
7687 \csname\HyRef@name autorefname\endcsname
7688 \noexpand~%
7689 }%
7690 }%
7691 }{\%
7692 \edef\HyRef@currentHtag{%
7693 \expandafter\noexpand\csname#1name\endcsname
7694 \noexpand~%
7695 }%
7696 }%
7697 }{\%
7698 \edef\HyRef@currentHtag{%
7699 \expandafter\noexpand\csname#1autorefname\endcsname
7700 \noexpand~%
7701 }%
7702 }%
7703 }
7704 \def\HyRef@StripStar#1*\@nil#3{%
7705 \def\HyRef@name{#2}%
7706 \ifx\HyRef@name\HyRef@CaseStar
7707 \def\HyRef@name{#1}%
7708 \else
7709 \def\HyRef@name{#3}%
7710 \fi
7711 }
7712 \def\HyRef@CaseStar{*\\}
7713 \def\HyRef@currentHtag{}

```

Support for package showkeys.



`\HyRef@ShowKeysRef`

```
7714 \let\HyRef@ShowKeysRef\@gobble
7715 \def\HyRef@ShowKeysInit{%
7716   \begingroup\expandafter\expandafter\expandafter\endgroup
7717   \expandafter\ifx\csname SK@@label\endcsname\relax
7718   \else
7719     \ifx\SK@ref\@empty
7720     \else
7721       \def\HyRef@ShowKeysRef{%
7722         \SK@\SK@@ref
7723       }%
7724     \fi
7725   \fi
7726 }
7727 \ifpackageloaded{showkeys}{%
7728   \HyRef@ShowKeysInit
7729 }{%
7730   \Hy@AtBeginDocument{%
7731     \ifpackageloaded{showkeys}{%
7732       \HyRef@ShowKeysInit
7733     }{%
7734     }%
7735 }
```

Defaults for the names that `\autoref` uses.

```
7736 \providecommand*\AMSautorefname{\equationautorefname}
7737 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
7738 \providecommand*\Itemautorefname{\itemautorefname}
7739 \providecommand*\itemautorefname{item}
7740 \providecommand*\equationautorefname{Equation}
7741 \providecommand*\footnoteautorefname{footnote}
7742 \providecommand*\itemautorefname{item}
7743 \providecommand*\figureautorefname{Figure}
7744 \providecommand*\tableautorefname{Table}
7745 \providecommand*\partautorefname{Part}
7746 \providecommand*\appendixautorefname{Appendix}
7747 \providecommand*\chapterautorefname{chapter}
7748 \providecommand*\sectionautorefname{section}
7749 \providecommand*\subsectionautorefname{subsection}
7750 \providecommand*\subsubsectionautorefname{subsubsection}
7751 \providecommand*\paragraphautorefname{paragraph}
7752 \providecommand*\subparagraphautorefname{subparagraph}
7753 \providecommand*\FancyVerbLineautorefname{line}
7754 \providecommand*\theoremautorefname{Theorem}
7755 \providecommand*\pageautorefname{page}
7756 \</package>
```

## 46 Configuration files

### 46.1 PS/PDF strings

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

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

```

7757 <*pdfTEX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
7758 \RequirePackage{pdfTEXcmds}[2009/04/10]
7759 \begingroup\expandafter\expandafter\expandafter\endgroup
7760 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
7761   \begingroup
7762     \catcode'\| =0 %
7763     \@makeother\| %
7764     |@firstofone{ \endgroup
7765     |def|Hy@pstringdef#1#2{%
7766       |begingroup
7767         |edef~{|string~}%
7768         |xdef|Hy@gtemp{#2}%
7769       |endgroup
7770       |let#1|Hy@gtemp
7771       |@onelevel@sanitize#1%
7772       |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
7773       |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
7774       |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
7775     }%
7776     |def|Hy@ExchangeBackslash#1\#2|@nil{%
7777       #1%
7778       |ifx|\#2|\% %
7779       |else
7780         \| %
7781         |Hy@ReturnAfterFi{%
7782           |Hy@ExchangeBackslash#2|@nil
7783         }%
7784       |fi
7785     }%
7786   }%
7787   \def|Hy@ExchangeLeftParenthesis#1(#2\@nil{%
7788     #1%
7789     \ifx\#2\% %
7790     \else
7791       \@backslashchar(%
7792       \Hy@ReturnAfterFi{%
7793         \Hy@ExchangeLeftParenthesis#2\@nil
7794       }%
7795     \fi
7796   }%
7797   \def|Hy@ExchangeRightParenthesis#1)#2\@nil{%
7798     #1%
7799     \ifx\#2\% %
7800     \else
7801       \@backslashchar)%
7802       \Hy@ReturnAfterFi{%
7803         \Hy@ExchangeRightParenthesis#2\@nil
7804       }%
7805     \fi
7806   }%
7807   \else
7808     \def|Hy@pstringdef#1#2{%
7809       \begingroup
7810       \edef~{|string~}%

```

```

7811 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
7812 \endgroup
7813 \let#1\Hy@gtemp
7814 }%
7815 \fi
7816 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 46.2 pdfTeX

```

7817 <*pdfTeX>
7818 \providecommand*{\XR@ext}{pdf}
7819 \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`

```

7820 \let\Hy@pdfminorversion\relax
7821 \begingroup\expandafter\expandafter\expandafter\endgroup
7822 \expandafter\ifx\csname pdfminorversion\endcsname\relax
7823 \begingroup\expandafter\expandafter\expandafter\endgroup
7824 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
7825 \else
7826 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
7827 \fi
7828 \else
7829 \def\Hy@pdfminorversion{\pdfminorversion}%
7830 \fi
7831 \ifundefined{Hy@pdfminorversion}{%
7832 \PackageInfo{hyperref}{%
7833 PDF version is not set, because pdfTeX is too old (<1.10a)%
7834 }%
7835 }{%
7836 \ifHy@ocgcolorlinks
7837 \ifnum\Hy@pdfminorversion<5 %
7838 \setkeys{Hyp}{pdfversion=1.5}%
7839 \fi
7840 \fi
7841 \ifHy@setpdfversion
7842 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
7843 \else
7844 \Hy@pdfminorversion=\Hy@pdfversion\relax
7845 \fi
7846 \PackageInfo{hyperref}{%
7847 \expandafter\string\Hy@pdfminorversion
7848 :=\number\Hy@pdfversion\space
7849 }%
7850 \fi
7851 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
7852 }
7853 \Hy@DisableOption{pdfversion}%
7854 \ifHy@ocgcolorlinks
7855 \immediate\pdfobj{%
7856 <<%

```

```

7857 /Type/OCG%
7858 /Name(View)%
7859 /Usage<<%
7860 /Print<<%
7861 /PrintState/OFF%
7862 >>%
7863 /View<<%
7864 /ViewState/ON%
7865 >>%
7866 >>%
7867 >>%
7868 }%
7869 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
7870 \immediate\pdfobj{%
7871 <<%
7872 /Type/OCG%
7873 /Name(Print)%
7874 /Usage<<%
7875 /Print<<%
7876 /PrintState/ON%
7877 >>%
7878 /View<<%
7879 /ViewState/OFF%
7880 >>%
7881 >>%
7882 >>%
7883 }%
7884 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
7885 \immediate\pdfobj{%
7886 [%
7887 \OBJ@OCG@view\space\OBJ@OCG@print
7888 ]%
7889 }%
7890 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
7891 \pdfcatalog{%
7892 /OCProperties<<%
7893 /OCGs \OBJ@OCGs
7894 /D<<%
7895 /OFF[\OBJ@OCG@print]%
7896 /AS[%
7897 <<%
7898 /Event/View%
7899 /OCGs \OBJ@OCGs
7900 /Category[/View]%
7901 >>%
7902 <<%
7903 /Event/Print%
7904 /OCGs \OBJ@OCGs
7905 /Category[/Print]%
7906 >>%
7907 <<%
7908 /Event/Export%
7909 /OCGs \OBJ@OCGs
7910 /Category[/Print]%
7911 >>%
7912 ]%
7913 >>%

```

```

7914 >>%
7915 }%
7916 \begingroup
7917 \edef\x{\endgroup
7918 \pdfpageresources{%
7919 /Properties<<%
7920 /OCView \OBJ@OCG@view
7921 /OCPrint \OBJ@OCG@print
7922 >>%
7923 }%
7924 }%
7925 \x
7926 \Hy@AtBeginDocument{%
7927 \def\Hy@colorlink#1{%
7928 \begingroup
7929 \ifHy@ocgcolorlinks
7930 \def\Hy@ocgcolor{#1}%
7931 \setbox0=\color@hbox
7932 \else
7933 \HyColor@UseColor#1%
7934 \fi
7935 }%
7936 \def\Hy@endcolorlink{%
7937 \ifHy@ocgcolorlinks
7938 \color@endbox
7939 \mbox{%
7940 \pdfliteral page{/OC/OCPrint BDC}%
7941 \rlap{\copy0}%
7942 \pdfliteral page{EMC/OC/OCView BDC}%
7943 \begingroup
7944 \expandafter\HyColor@UseColor\Hy@ocgcolor
7945 \box0 %
7946 \endgroup
7947 \pdfliteral page{EMC}%
7948 }%
7949 \fi
7950 \endgroup
7951 }%
7952 }%
7953 \else
7954 \Hy@DisableOption{ocgcolorlinks}%
7955 \fi

```

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

```

7956 \def\setpdfinkmargin#1{\pdfinkmargin#1}
7957 \ifx\pdfstartlink\@undefined% less than version 14
7958 \let\pdfstartlink\pdfannotlink
7959 \let\pdfinkmargin\@tempdima
7960 \let\pdfxform\pdfform
7961 \let\pdfastxform\pdfastform
7962 \let\pdfrefxform\pdfrefform
7963 \else
7964 \pdfinkmargin1pt %
7965 \fi

```

First set up the default linking

```
7966 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

7967 \def\new@pdflink#1{%
7968   \Hy@SaveLastskip
7969   \Hy@VerboseAnchor{#1}%
7970   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7971   \Hy@DestName\Hy@pstringDest\@pdfview
7972   \Hy@RestoreLastskip
7973 }
7974 \let\pdf@endanchor\@empty

```

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

```

7975 \def\Hy@DestName#1#2{%
7976   \pdfdest name{#1}#2\relax
7977 }

```

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.

```

7978 \providecommand*\@pdfborder{0 0 1}
7979 \providecommand*\@pdfborderstyle{}
7980 \def\Hy@undefinedname{UNDEFINED}
7981 \def\find@pdflink#1#2{%
7982   \leavevmode
7983   \protected@edef\Hy@testname{#2}%
7984   \ifx\Hy@testname\@empty
7985     \Hy@Warning{%
7986       Empty destination name,\MessageBreak
7987       using '\Hy@undefinedname'%
7988     }%
7989     \let\Hy@testname\Hy@undefinedname
7990   \else
7991     \Hy@pstringdef\Hy@testname{%
7992       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7993     }%
7994   \fi
7995   \Hy@StartlinkName{%
7996     \ifHy@pdfa /F 4\fi
7997     \Hy@setpdfborder
7998     \ifx\@pdfhighlight\@empty
7999     \else
8000       /H\@pdfhighlight
8001     \fi
8002     \ifx\CurrentBorderColor\relax
8003     \else
8004       /C\CurrentBorderColor]%
8005   \fi
8006   }\Hy@testname
8007   \expandafter\Hy@colorlink\csname @#1color\endcsname
8008 }
8009 \def\Hy@StartlinkName#1#2{%
8010   \pdfstartlink attr{#1}goto name{#2}\relax
8011 }
8012 \def\close@pdflink{%
8013   \Hy@endcolorlink
8014   \Hy@VerboseLinkStop
8015   \pdfendlink

```

```

8016 }
8017 \def\hyper@anchor#1{%
8018   \new@pdfink{#1}\anchor@spot\pdf@endanchor
8019 }
8020 \def\hyper@anchorstart#1{%
8021   \new@pdfink{#1}%
8022   \Hy@activeanchortrue
8023 }
8024 \def\hyper@anchorend{%
8025   \pdf@endanchor
8026   \Hy@activeanchorfalse
8027 }
8028 \def\hyper@linkstart#1#2{%
8029   \Hy@VerboseLinkStart{#1}{#2}%
8030   \ltx@ifundefined{@#1bordercolor}{%
8031     \let\CurrentBorderColor\relax
8032   }{%
8033     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8034   }%
8035   \find@pdfink{#1}{#2}%
8036 }
8037 \def\hyper@linkend{\close@pdfink}
8038 \def\hyper@link#1#2#3{%
8039   \Hy@VerboseLinkStart{#1}{#2}%
8040   \ltx@ifundefined{@#1bordercolor}{%
8041     \let\CurrentBorderColor\relax
8042   }{%
8043     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8044   }%
8045   \find@pdfink{#1}{#2}#3%
8046   \close@pdfink
8047 }
8048 \let\CurrentBorderColor\@linkbordercolor
8049 \def\hyper@linkurl#1#2{%
8050   \begingroup
8051     \Hy@pstringdef\Hy@pstringURI{#2}%
8052     \hyper@chars
8053     \leavevmode
8054     \pdfstartlink
8055     attr{%
8056       \Hy@setpdfborder
8057       \ifx\@pdfhighlight\@empty
8058         \else
8059           /H\@pdfhighlight
8060         \fi
8061       \ifx\@urlbordercolor\relax
8062         \else
8063           /C[\@urlbordercolor]%
8064         \fi
8065     }%
8066     user{%
8067       /Subtype/Link%
8068       \ifHy@pdfa /F 4\fi
8069       /A<<%
8070       /Type/Action%
8071       /S/URI%
8072       /URI(\Hy@pstringURI)%

```

```

8073     >>%
8074     }%
8075     \relax
8076     \Hy@colorlink\@urlcolor#1%
8077     \close@pdfink
8078 \endgroup
8079 }
8080 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8081 \begingroup
8082 \Hy@pstringdef\Hy@pstringF{#2}%
8083 \Hy@pstringdef\Hy@pstringD{#3}%
8084 \leavevmode
8085 \pdfstartlink
8086 attr{%
8087     \Hy@setpdfborder
8088     \ifx\@pdfhighlight\@empty
8089     \else
8090     /H\@pdfhighlight
8091     \fi
8092     \ifx\@filebordercolor\relax
8093     \else
8094     /C[\@filebordercolor]%
8095     \fi
8096 }%
8097 user {%
8098     /Subtype/Link%
8099     \ifHy@pdfa /F 4\fi
8100     /A<<%
8101     /F(\Hy@pstringF)%
8102     /S/GoToR%
8103     \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}

```

```

8104     \ifx\#3\%
8105     /D[0 \@pdfstartview]%
8106     \else
8107     /D(\Hy@pstringD)%
8108     \fi
8109     >>%
8110     }%
8111     \relax
8112     \Hy@colorlink\@filecolor#1%
8113     \close@pdfink
8114 \endgroup
8115 }
8116 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
8117 \begingroup
8118 \Hy@pstringdef\Hy@pstringF{#1}%

```



```

8119 \Hy@pstringdef\Hy@pstringP{#3}%
8120 \leavevmode
8121 \pdfstartlink
8122   attr{%
8123     \Hy@setpdfborder
8124     \ifx\@pdfhighlight\@empty
8125     \else
8126       /H\@pdfhighlight
8127     \fi
8128     \ifx\@runbordercolor\relax
8129     \else
8130       /C[\@runbordercolor]%
8131     \fi
8132   }%
8133   user {%
8134     /Subtype/Link%
8135     \ifHy@pdfa /F 4\fi
8136     /A<<%
8137       /F(\Hy@pstringF)%
8138       /S/Launch%
8139       \Hy@SetNewWindow
8140       \ifx\#3\%
8141       \else
8142         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8143       \fi
8144     >>%
8145   }%
8146   \relax
8147   \Hy@colorlink\@runcolor#2%
8148   \close@pdflink
8149 \endgroup
8150 }

```

\@pdfproducer

```

8151 \ifx\@pdfproducer\relax
8152 \begingroup\expandafter\expandafter\expandafter\endgroup
8153 \expandafter\ifx\csname luatexversion\endcsname\relax
8154 \def\@pdfproducer{pdfTeX}%
8155 \ifx\eTeXversion\@undefined
8156 \else
8157 \ifx\eTeXversion\relax
8158 \else
8159 \ifnum\eTeXversion>0 %
8160 \def\@pdfproducer{pdfeTeX}%
8161 \fi
8162 \fi
8163 \fi
8164 \ifx\pdfTeXversion\@undefined
8165 \else
8166 \ifnum\pdfTeXversion<100 %
8167 \edef\@pdfproducer{%
8168   \@pdfproducer
8169   \the\pdfTeXversion.\pdfTeXrevision
8170 }%
8171 \else
8172 \ifnum\pdfTeXversion<130 %
8173 \edef\@pdfproducer{%

```

```

8174      \@pdfproducer-%
8175      \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8176      \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
8177      \pdfTeXrevision
8178    }%
8179  \else
8180    \ifnum\pdfTeXversion<140 %
8181    \else
8182      \def\@pdfproducer{pdfTeX}%
8183    \fi
8184    \edef\@pdfproducer{%
8185      \@pdfproducer-%
8186      \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8187      \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
8188      \pdfTeXrevision
8189    }%
8190  \fi
8191 \fi
8192 \fi
8193 \else
8194 \begingroup
8195   \count@=\luatexversion
8196   \divide\count@ by 100 %
8197   \edef\x{\the\count@}%
8198   \count@=-\x\relax
8199   \multiply\count@ by 100 %
8200   \advance\count@ by \luatexversion
8201   \edef\x{\endgroup
8202     \def\noexpand\@pdfproducer{%
8203       LuaTeX-\x.\the\count@.\luatexrevision
8204     }%
8205   }%
8206 \x
8207 \fi
8208 \fi

```

\PDF@SetupDox

```

8209 \def\PDF@SetupDoc{%
8210   \ifx\@pdfpagescrop\@empty
8211   \else
8212     \edef\process@me{%
8213       \pdfpagesattr={%
8214         /CropBox[\@pdfpagescrop]%
8215         \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
8216         \else
8217           ^^J\the\pdfpagesattr
8218         \fi
8219       }%
8220     }%
8221     \process@me
8222   \fi
8223   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8224   \pdfcatalog{%
8225     /PageMode/\@pdfpagemode
8226     \ifx\@baseurl\@empty
8227     \else
8228       /URI<</Base(\Hy@pstringB)>>%

```

```

8229 \fi
8230 }%
8231 \ifx\@pdfstartpage\@empty
8232 \else
8233 \ifx\@pdfstartview\@empty
8234 \else
8235 openaction goto page\@pdfstartpage{\@pdfstartview}%
8236 \fi
8237 \fi
8238 \edef\Hy@temp{%
8239 \ifHy@toolbar\else /HideToolbar true\fi
8240 \ifHy@menubar\else /HideMenubar true\fi
8241 \ifHy>windowui\else /HideWindowUI true\fi
8242 \ifHy@fitwindow /FitWindow true\fi
8243 \ifHy@centerwindow /CenterWindow true\fi
8244 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8245 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8246 \Hy@UseNameKey{Direction}\@pdfdirection
8247 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8248 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8249 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8250 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8251 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8252 \Hy@UseNameKey{Duplex}\@pdfduplex
8253 \ifx\@pdfpicktraybypdfsize\@empty
8254 \else
8255 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8256 \fi
8257 \ifx\@pdfprintpagerange\@empty
8258 \else
8259 /PrintPageRange\@pdfprintpagerange}%
8260 \fi
8261 \ifx\@pdfnumcopies\@empty
8262 \else
8263 /NumCopies \@pdfnumcopies
8264 \fi
8265 }%
8266 \pdfcatalog{%
8267 \ifx\Hy@temp\@empty
8268 \else
8269 /ViewerPreferences<<\Hy@temp>>%
8270 \fi
8271 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8272 \ifx\@pdflang\@empty
8273 \else
8274 /Lang(\@pdflang)%
8275 \fi
8276 }%
8277 }

```

\PDF@FinishDoc

```

8278 \def\PDF@FinishDoc{%
8279 \Hy@UseMaketitleInfos
8280 \HyInfo@GenerateAddons
8281 \pdfinfo{%
8282 /Author(\@pdfauthor)%
8283 /Title(\@pdftitle)%

```

```

8284 /Subject(\@pdfsubject)%
8285 /Creator(\@pdfcreator)%
8286 \ifx\@pdfcreationdate\@empty
8287 \else
8288 /CreationDate(\@pdfcreationdate)%
8289 \fi
8290 \ifx\@pdfmoddate\@empty
8291 \else
8292 /ModDate(\@pdfmoddate)%
8293 \fi
8294 \ifx\@pdfproducer\relax
8295 \else
8296 /Producer(\@pdfproducer)%
8297 \fi
8298 /Keywords(\@pdfkeywords)%
8299 \ifx\@pdftrapped\@empty
8300 \else
8301 /Trapped/\@pdftrapped
8302 \fi
8303 \HyInfo@Addons
8304 }%
8305 \Hy@DisableOption{pdfauthor}%
8306 \Hy@DisableOption{pdftitle}%
8307 \Hy@DisableOption{pdfsubject}%
8308 \Hy@DisableOption{pdfcreator}%
8309 \Hy@DisableOption{pdfcreationdate}%
8310 \Hy@DisableOption{pdfmoddate}%
8311 \Hy@DisableOption{pdfproducer}%
8312 \Hy@DisableOption{pdfkeywords}%
8313 \Hy@DisableOption{pdftrapped}%
8314 \Hy@DisableOption{pdfinfo}%
8315 }

```

`\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`.

```

8316 \def\hyper@pagetransition{%
8317 \ifx\@pdfpagetransition\relax
8318 \else
8319 \expandafter\Hy@RemoveTransPageAttr
8320 \the\pdfpageattr^^J/Trans{}}>>\END
8321 \ifx\@pdfpagetransition\@empty
8322 \else
8323 \edef\@processme{%
8324 \global\pdfpageattr{%
8325 \the\pdfpageattr
8326 ^^J/Trans << /S /\@pdfpagetransition\space >>%
8327 }%
8328 }%
8329 \@processme
8330 \fi
8331 \fi
8332 }

```

`\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.

```

8333 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
8334 \ifx\#2\%
8335 \global\pdfpageattr{#1}%
8336 \else
8337 \Hy@RemoveTransPageAttr#1#4\END
8338 \fi
8339 }

```

`\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`.

```

8340 \def\hyper@pageduration{%
8341 \ifx\@pdfpageduration\relax
8342 \else
8343 \expandafter
8344 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
8345 \ifx\@pdfpageduration\@empty
8346 \else
8347 \edef\@processme{%
8348 \global\pdfpageattr{%
8349 \the\pdfpageattr
8350 ^^J/Dur \@pdfpageduration\space
8351 }%
8352 }%
8353 \@processme
8354 \fi
8355 \fi
8356 }

```

`\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.

```

8357 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
8358 \ifx\#2\%
8359 \global\pdfpageattr{#1}%
8360 \else
8361 \Hy@RemoveDurPageAttr#1#4\END
8362 \fi
8363 }

```

`\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).

```

8364 \def\hyper@pagehidden{%
8365 \ifHy@useHidKey
8366 \expandafter
8367 \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
8368 \ifHy@pdfpagehidden
8369 \edef\@processme{%
8370 \global\pdfpageattr{%
8371 \the\pdfpageattr
8372 ^^J/Hid true % SPACE
8373 }%
8374 }%

```

```

8375 \@@processme
8376 \fi
8377 \fi
8378 }

```

`\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.

```

8379 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
8380 \ifx\#2\%
8381 \global\pdfpageattr{#1}%
8382 \else
8383 \Hy@RemoveHidPageAttr#1#4\END
8384 \fi
8385 }

8386 \g@addto@macro\Hy@EveryPageHook{%
8387 \hyper@pagetransition
8388 \hyper@pageduration
8389 \hyper@pagehidden
8390 }

```

Also Xe<sub>TeX</sub> support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

8391 </pdfTeX>
8392 <*pdfTeX | xetex>
8393 \Hy@AtBeginDocument{%
8394 \ifHy@setpagesize
8395 \expandafter\@firstofone
8396 \else
8397 \expandafter\@gobble
8398 \fi
8399 {%
8400 \@ifclassloaded{seminar}{%
8401 <*pdfTeX>
8402 \setlength{\pdfhorigin}{1truein}%
8403 \setlength{\pdfvorigin}{1truein}%
8404 </pdfTeX>
8405 \ifportrait
8406 \ifdim\paperwidth=\z@
8407 \else
8408 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
8409 \fi
8410 \ifdim\paperheight=\z@
8411 \else
8412 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
8413 \fi
8414 \else
8415 \ifdim\paperheight=\z@
8416 \else
8417 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
8418 \fi
8419 \ifdim\paperwidth=\z@
8420 \else
8421 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
8422 \fi
8423 \fi

```

```

8424 }{%
8425   \ltx@ifundefined{stockwidth}{%
8426     \ifdim\paperwidth>\z@
8427       \setlength{\pdfpagewidth}{\paperwidth}%
8428     \fi
8429     \ifdim\paperheight>\z@
8430       \setlength{\pdfpageheight}{\paperheight}%
8431     \fi
8432   }{%
8433     \ifdim\stockwidth>\z@
8434       \setlength{\pdfpagewidth}{\stockwidth}%
8435     \fi
8436     \ifdim\stockheight>\z@
8437       \setlength{\pdfpageheight}{\stockheight}%
8438     \fi
8439   }%
8440 }%
8441 }%
8442 \Hy@DisableOption{setpagesize}%
8443 }
8444 </pdfTeX | xetex>
8445 <*pdfTeX>
8446 \def\Acrobatmenu#1#2{%
8447   \Hy@Acrobatmenu{#1}{#2}{%
8448     \pdfstartlink
8449     attr{%
8450       \Hy@setpdfborder
8451       \ifx\@pdfhighlight\@empty
8452         \else
8453           /H\@pdfhighlight
8454         \fi
8455       \ifx\@menubordercolor\relax
8456         \else
8457           /C[\@menubordercolor]%
8458       \fi
8459     }%
8460     user{%
8461       /Subtype/Link%
8462       \ifHy@pdfa /F 4\fi
8463       /A<<%
8464       /S/Named/N/#1%
8465       >>%
8466     }%
8467     \relax
8468     \Hy@colorlink\@menucolor#2%
8469     \close@pdflink
8470   }%
8471 }

```

#### 46.2.1 Fix for problem with different nesting levels

\AtBeginShipoutFirst adds an additional box layer around the first output page. This disturbs pdfTeX's low level link commands \pdfstartlink and \pdfendlink, if a link is broken across the first and second output page.

The problem could be fixed by replacing \AtBeginShipoutFirst, because the box layer is not necessary for pdfTeX—no \specials need to be inserted. However it's easier to add an additional box level for the pages after the first one. Also \AtBeginShipoutFirst

could be invoked independently from `hyperref`.

```

8472 \def\Hy@FixNotFirstPage{%
8473   \gdef\Hy@FixNotFirstPage{%
8474     \setbox\AtBeginShipoutBox=\hbox{%
8475       \copy\AtBeginShipoutBox
8476     }%
8477   }%
8478 }
8479 \AtBeginShipout{\Hy@FixNotFirstPage}
8480 \pdfTeX

```

### 46.3 `hypertex`

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

**href:** `html:<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.

```

8481 (*hypertex)
8482 \providecommand*\XR@ext}{dvi}
8483 \def\PDF@FinishDoc{}
8484 \def\PDF@SetupDoc{%
8485   \ifx\@baseurl\@empty
8486   \else
8487     \special{html:<base href="\@baseurl">}%
8488   \fi
8489 }
8490 \def\hyper@anchor#1{%
8491   \Hy@SaveLastskip
8492   \Hy@VerboseAnchor{#1}%
8493   \begingroup

```



```

8494 \let\protect=\string
8495 \hyper@chars
8496 \special{html:<a name=%
8497     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8498 \endgroup
8499 \Hy@activeanchortrue
8500 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8501 \special{html:</a>}%
8502 \Hy@activeanchorfalse
8503 \Hy@RestoreLastskip
8504 }
8505 \def\hyper@anchorstart#1{%
8506 \Hy@SaveLastskip
8507 \Hy@VerboseAnchor{#1}%
8508 \begingroup
8509 \hyper@chars
8510 \special{html:<a name=%
8511     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8512 \endgroup
8513 \Hy@activeanchortrue
8514 }
8515 \def\hyper@anchorend{%
8516 \special{html:</a>}%
8517 \Hy@activeanchorfalse
8518 \Hy@RestoreLastskip
8519 }
8520 \def\@urltype{url}
8521 \def\hyper@linkstart#1#2{%
8522 \Hy@VerboseLinkStart{#1}{#2}%
8523 \expandafter\Hy@colorlink\csname @#1color\endcsname
8524 \def\Hy@tempa{#1}%
8525 \ifx\Hy@tempa\@urltype
8526 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8527 \else
8528 \begingroup
8529 \hyper@chars
8530 \special{html:<a href=%
8531     \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
8532 \endgroup
8533 \fi
8534 }
8535 \def\hyper@linkend{%
8536 \special{html:</a>}%
8537 \Hy@endcolorlink
8538 }
8539 \def\hyper@linkfile#1#2#3{%
8540 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\#3\fi}%
8541 }
8542 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why  $\text{\LaTeX}$  constructs make this totally foul up, and make us revert to basic  $\text{\TeX}$ . I do not know.

```

8543 \leavevmode
8544 \ifHy@raiselinks
8545 \setbox\@tempboxa=\color@hbox #1\color@endbox
8546 \@linkdim\dp\@tempboxa
8547 \lower\@linkdim\hbox{%
8548 \hyper@chars

```

```

8549 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8550 }%
8551 \Hy@colorlink\@urlcolor#1%
8552 \@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).

```

8553 \advance\@linkdim by -6.5\p@
8554 \raise\@linkdim\hbox{\special{html:</a>}}%
8555 \Hy@endcolorlink
8556 \else
8557 \begingroup
8558 \hyper@chars
8559 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8560 \Hy@colorlink\@urlcolor#1%
8561 \special{html:</a>}%
8562 \Hy@endcolorlink
8563 \endgroup
8564 \fi
8565 }

```

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

```

8566 \def\hyper@link#1#2#3{%
8567 \Hy@VerboseLinkStart{#1}{#2}%
8568 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
8569 }

8570 \def\hyper@image#1#2{%
8571 \begingroup
8572 \hyper@chars
8573 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
8574 \endgroup
8575 }
8576 </hypertex>
8577 <*dviwindo>

```

## 46.4 dviwindo

[This was developed by David Carlisle]. Within a file dviwindo hyperlinking is used, for external URL's a call to \wwwbrowser is made. (You can define this command before or after loading the hyperref package if the default c:/netscape/netscape is not suitable) Dviwindo could in fact handle external links to dvi files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the hypertex cfg. For dviwindo, L<sup>A</sup>T<sub>E</sub>X must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by \baselineskip high is used.

```

8578 \providecommand*\XR@ext}{dvi}
8579 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
8580 \def\hyper@anchor#1{%
8581 \Hy@SaveLastskip
8582 \Hy@VerboseAnchor{#1}%
8583 \begingroup
8584 \let\protect=\string
8585 \special{mark: #1}%

```

```

8586 \endgroup
8587 \Hy@activeanchortrue
8588 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8589 \Hy@activeanchorfalse
8590 \Hy@RestoreLastskip
8591 }
8592 \def\hyper@anchorstart#1{%
8593 \Hy@SaveLastskip
8594 \Hy@VerboseAnchor{#1}%
8595 \special{mark: #1}%
8596 \Hy@activeanchortrue
8597 }
8598 \def\hyper@anchorend{%
8599 \Hy@activeanchorfalse
8600 \Hy@RestoreLastskip
8601 }
8602 \def\hyper@linkstart#1#2{%
8603 \Hy@VerboseLinkStart{#1}{#2}%
8604 \expandafter\Hy@colorlink\csname @#1color\endcsname
8605 \special{button: %
8606 10000000 %
8607 \number\baselineskip\space
8608 #2%
8609 }%
8610 }
8611 \def\hyper@linkend{%
8612 \Hy@endcolorlink
8613 }
8614 \def\hyper@link#1#2#3{%
8615 \Hy@VerboseLinkStart{#1}{#2}%
8616 \setbox\@tempboxa=\color@hbox #3\color@endbox
8617 \leavevmode
8618 \ifHy@raiselinks
8619 \@linkdim\dp\@tempboxa
8620 \lower\@linkdim\hbox{%
8621 \special{button: %
8622 \number\wd\@tempboxa\space
8623 \number\ht\@tempboxa\space
8624 #2%
8625 }%
8626 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8627 \Hy@endcolorlink
8628 }%
8629 \@linkdim\ht\@tempboxa
8630 \advance\@linkdim by -6.5\p@
8631 \raise\@linkdim\hbox{}%
8632 \else
8633 \special{button: %
8634 \number\wd\@tempboxa\space
8635 \number\ht\@tempboxa\space
8636 #2%
8637 }%
8638 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8639 \Hy@endcolorlink
8640 \fi
8641 }
8642 \def\hyper@linkurl#1#2{%

```

```

8643 \begingroup
8644 \hyper@chars
8645 \leavevmode
8646 \setbox\@tempboxa=\color@hbox #1\color@endbox
8647 \ifHy@raiselinks
8648 \@linkdim\dp\@tempboxa
8649 \lower\@linkdim\hbox{%
8650 \special{button: %
8651 \number\wd\@tempboxa\space
8652 \number\ht\@tempboxa\space
8653 launch: \wwwbrowser\space
8654 #2%
8655 }%
8656 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8657 }%
8658 \@linkdim\ht\@tempboxa
8659 \advance\@linkdim by -6.5\p@
8660 \raise\@linkdim\hbox{}%
8661 \else
8662 \special{button: %
8663 \number\wd\@tempboxa\space
8664 \number\ht\@tempboxa\space
8665 launch: \wwwbrowser\space
8666 #2%
8667 }%
8668 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8669 \fi
8670 \endgroup
8671 }
8672 \def\hyper@linkfile#1#2#3{%
8673 \begingroup
8674 \hyper@chars
8675 \leavevmode
8676 \setbox\@tempboxa=\color@hbox #1\color@endbox
8677 \ifHy@raiselinks
8678 \@linkdim\dp\@tempboxa
8679 \lower\@linkdim\hbox{%
8680 \special{button: %
8681 \number\wd\@tempboxa\space
8682 \number\ht\@tempboxa\space
8683 #3,%
8684 file: #2%
8685 }%
8686 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8687 }%
8688 \@linkdim\ht\@tempboxa
8689 \advance\@linkdim by -6.5\p@
8690 \raise\@linkdim\hbox{}%
8691 \else
8692 \special{button: %
8693 \number\wd\@tempboxa\space
8694 \number\ht\@tempboxa\space
8695 #3,%
8696 file: #2%
8697 }%
8698 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8699 \fi

```

```

8700 \endgroup
8701 }
8702 \ifx\@pdfproducer\relax
8703 \def\@pdfproducer{dviwindo + Distiller}%
8704 \fi
8705 \HyInfo@AddonUnsupportedtrue
8706 \def\PDF@FinishDoc{%
8707 \Hy@UseMaketitleInfos
8708 \HyInfo@TrappedUnsupported
8709 \special{PDF: Keywords \@pdfkeywords}%
8710 \special{PDF: Title \@pdftitle}%
8711 \special{PDF: Creator \@pdfcreator}%
8712 \ifx\@pdfcreationdate\@empty
8713 \else
8714 \special{PDF: CreationDate \@pdfcreationdate}%
8715 \fi
8716 \ifx\@pdfmoddate\@empty
8717 \else
8718 \special{PDF: ModDate \@pdfmoddate}%
8719 \fi
8720 \special{PDF: Author \@pdfauthor}%
8721 \ifx\@pdfproducer\relax
8722 \else
8723 \special{PDF: Producer \@pdfproducer}%
8724 \fi
8725 \special{PDF: Subject \@pdfsubject}%
8726 \Hy@DisableOption{pdfauthor}%
8727 \Hy@DisableOption{pdftitle}%
8728 \Hy@DisableOption{pdfsubject}%
8729 \Hy@DisableOption{pdfcreator}%
8730 \Hy@DisableOption{pdfcreationdate}%
8731 \Hy@DisableOption{pdfmoddate}%
8732 \Hy@DisableOption{pdfproducer}%
8733 \Hy@DisableOption{pdfkeywords}%
8734 \Hy@DisableOption{pdftrapped}%
8735 \Hy@DisableOption{pdfinfo}%
8736 }
8737 \def\PDF@SetupDoc{%
8738 \ifx\@baseurl\@empty
8739 \else
8740 \special{PDF: Base \@baseurl}%
8741 \fi
8742 \ifx\@pdfpagescrop\@empty\else
8743 \special{PDF: BBox \@pdfpagescrop}%
8744 \fi
8745 \def\Hy@temp{%
8746 \ifx\@pdfstartpage\@empty
8747 \else
8748 \ifx\@pdfstartview\@empty
8749 \else
8750 \edef\Hy@temp{%
8751 ,Page=\@pdfstartpage
8752 ,View=\@pdfstartview
8753 }%
8754 \fi
8755 \fi
8756 \edef\Hy@temp{%

```

```

8757 \noexpand\pdfmark{%
8758   pdfmark=/DOCVIEW,%
8759   PageMode=/\@pdfpagemode
8760   \Hy@temp
8761 }%
8762 }%
8763 \Hy@temp
8764 \ifx\@pdfpagescrop\@empty
8765 \else
8766   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8767 \fi
8768 \edef\Hy@temp{%
8769   \ifHy@toolbar\else /HideToolbar true\fi
8770   \ifHy@menubar\else /HideMenubar true\fi
8771   \ifHy>windowui\else /HideWindowUI true\fi
8772   \ifHy@fitwindow /FitWindow true\fi
8773   \ifHy@centerwindow /CenterWindow true\fi
8774   \ifHy@displaydoctitle /DisplayDocTitle true\fi
8775   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8776   \Hy@UseNameKey{Direction}\@pdfdirection
8777   \Hy@UseNameKey{ViewArea}\@pdfviewarea
8778   \Hy@UseNameKey{ViewClip}\@pdfviewclip
8779   \Hy@UseNameKey{PrintArea}\@pdfprintarea
8780   \Hy@UseNameKey{PrintClip}\@pdfprintclip
8781   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8782   \Hy@UseNameKey{Duplex}\@pdfduplex
8783   \ifx\@pdfpicktraybypdfsize\@empty
8784   \else
8785     /PickTrayByPDFSize \@pdfpicktraybypdfsize
8786   \fi
8787   \ifx\@pdfprintpagerange\@empty
8788   \else
8789     /PrintPageRange[\@pdfprintpagerange]%
8790   \fi
8791   \ifx\@pdfnumcopies\@empty
8792   \else
8793     /NumCopies \@pdfnumcopies
8794   \fi
8795 }%
8796 \pdfmark{pdfmark=/PUT,%
8797   Raw={%
8798     \string{Catalog\string}<<%
8799     \ifx\Hy@temp\@empty
8800     \else
8801       /ViewerPreferences<<\Hy@temp>>%
8802     \fi
8803     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8804     \ifx\@pdflang\@empty
8805     \else
8806       /Lang(\@pdflang)%
8807     \fi
8808     >>%
8809   }%
8810 }%
8811 }
8812 </dviwindo>
8813 <*dvi pdfm | xetex>

```

## 46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```
8814 \providecommand*\XR@ext}{pdf}
8815 \Hy@setbreaklinks{true}
8816 \newsavebox{\pdfm@box}
8817 \def\@pdfm@mark#1{\special{pdf:#1}}
8818 \def\@pdfm@dest#1{%
8819   \Hy@SaveLastskip
8820   \Hy@VerboseAnchor{#1}%
8821   \begingroup
8822     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8823     \def\x{XYZ}%
8824     \ifx\x\@pdfview
8825       \def\x{XYZ @xpos @ypos null}%
8826     \else
8827       \def\x{FitH}%
8828       \ifx\x\@pdfview
8829         \def\x{FitH @ypos}%
8830       \else
8831         \def\x{FitBH}%
8832         \ifx\x\@pdfview
8833           \def\x{FitBH @ypos}%
8834         \else
8835           \def\x{FitV}%
8836           \ifx\x\@pdfview
8837             \def\x{FitV @xpos}%
8838           \else
8839             \def\x{FitBV}%
8840             \ifx\x\@pdfview
8841               \def\x{FitBV @xpos}%
8842             \else
8843               \def\x{Fit}%
8844               \ifx\x\@pdfview
8845                 \let\x\@pdfview
8846               \else
8847                 \def\x{FitB}%
8848                 \ifx\x\@pdfview
8849                   \let\x\@pdfview
8850                 \else
8851                   \def\x{FitR}%
8852                   \ifx\x\@pdfview
8853                     \Hy@Warning{'pdfview=FitR' is not supported}%
8854                     \def\x{XYZ @xpos @ypos null}%
8855                   \else
8856                     \@onelevel@sanitize\@pdfview
8857                     \Hy@Warning{%
8858                       Unknown value '\@pdfview' for pdfview%
8859                     }%
8860                     \def\x{XYZ @xpos @ypos null}%
8861                   \fi
8862                 \fi
8863               \fi
8864             \fi
8865           \fi
8866         \fi
8867       \fi
```

```

8868 \fi
8869 \pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
8870 \endgroup
8871 \Hy@RestoreLastskip
8872 }
8873 \providecommand*\@pdfview{XYZ}
8874 \providecommand*\@pdfborder{0 0 1}
8875 \providecommand*\@pdfborderstyle{}
8876 \def\hyper@anchor#1{%
8877 \@pdfm@dest{#1}%
8878 }
8879 \def\hyper@anchorstart#1{%
8880 \Hy@activeanchortrue
8881 \@pdfm@dest{#1}%
8882 }
8883 \def\hyper@anchorend{%
8884 \Hy@activeanchorfalse
8885 }

8886 \newcounter{Hy@AnnotLevel}

8887 \ifHy@ocgcolorlinks
8888 \def\OBJ@OCG@view{@OCG@view}%
8889 \@pdfm@mark{%
8890 obj \OBJ@OCG@view <<%
8891 /Type/OCG%
8892 /Name(View)%
8893 /Usage<<%
8894 /Print<<%
8895 /PrintState/OFF%
8896 >>%
8897 /View<<%
8898 /ViewState/ON%
8899 >>%
8900 >>%
8901 >>%
8902 }%
8903 \@pdfm@mark{close \OBJ@OCG@view}%
8904 \def\OBJ@OCG@print{@OCG@print}%
8905 \@pdfm@mark{%
8906 obj \OBJ@OCG@print <<%
8907 /Type/OCG%
8908 /Name(Print)%
8909 /Usage<<%
8910 /Print<<%
8911 /PrintState/ON%
8912 >>%
8913 /View<<%
8914 /ViewState/OFF%
8915 >>%
8916 >>%
8917 >>%
8918 }%
8919 \@pdfm@mark{close \OBJ@OCG@print}%
8920 \def\OBJ@OCGs{@OCGs}%
8921 \@pdfm@mark{%
8922 obj \OBJ@OCGs [%
8923 \OBJ@OCG@view\space\OBJ@OCG@print
8924 ]%

```



```

8925 }%
8926 \@pdfmark{close \OBJ@OCGs}%
8927 \@pdfmark{%
8928   put @catalog <<%
8929     /OCProperties<<%
8930     /OCGs \OBJ@OCGs
8931     /D<<%
8932     /OFF[\OBJ@OCG@print]%
8933     /AS[%
8934       <<%
8935         /Event/View%
8936         /OCGs \OBJ@OCGs
8937         /Category[/View]%
8938       >>%
8939       <<%
8940         /Event/Print%
8941         /OCGs \OBJ@OCGs
8942         /Category[/Print]%
8943       >>%
8944       <<%
8945         /Event/Export%
8946         /OCGs \OBJ@OCGs
8947         /Category[/Print]%
8948       >>%
8949     ]%
8950   >>%
8951 >>%
8952 >>%
8953 }%
8954 \AtBeginShipout{%
8955   \setbox\AtBeginShipoutBox=\hbox{%
8956     \copy\AtBeginShipoutBox
8957     \@pdfmark{%
8958       put @resources <<%
8959         /Properties<<%
8960         /OCView \OBJ@OCG@view
8961         /OCPrint \OBJ@OCG@print
8962       >>%
8963     >>%
8964   }%
8965 }%
8966 }%
8967 \Hy@AtBeginDocument{%
8968   \def\Hy@colorlink#1{%
8969     \begingroup
8970     \ifHy@ocgcolorlinks
8971       \def\Hy@ocgcolor{#1}%
8972       \setbox0=\color@hbox
8973     \else
8974       \HyColor@UseColor#1%
8975     \fi
8976   }%
8977   \def\Hy@endcolorlink{%
8978     \ifHy@ocgcolorlinks
8979       \color@endbox
8980     \mbox{%
8981       \@pdfmark{content /OC/OCPrint BDC}%

```

```

8982      \rlap{\copy0}%
8983      \@pdfm@mark{content EMC/OC/OCView BDC}%
8984      \begingroup
8985        \expandafter\HyColor@UseColor\Hy@ocgcolor
8986        \box0 %
8987      \endgroup
8988      \@pdfm@mark{content EMC}%
8989    }%
8990  \fi
8991  \endgroup
8992 }%
8993 }%
8994 \else
8995   \Hy@DisableOption{ocgcolorlinks}%
8996 \fi

8997 \def\Hy@BeginAnnot#1{%
8998   \stepcounter{Hy@AnnotLevel}%
8999   \ifnum\value{Hy@AnnotLevel}=\@ne
9000     #1%
9001   \fi
9002 }
9003 \def\Hy@endAnnot{%
9004   \ifnum\value{Hy@AnnotLevel}=\@ne
9005     \Hy@endcolorlink
9006     \@pdfm@mark{eann}%
9007   \fi
9008   \addtocounter{Hy@AnnotLevel}\m@ne
9009 }

9010 \def\Hy@undefinedname{UNDEFINED}
9011 \def\hyper@linkstart#1#2{%
9012   \Hy@VerboseLinkStart{#1}{#2}%
9013   \Hy@BeginAnnot{%
9014     \protected@edef\Hy@testname{#2}%
9015     \ifx\Hy@testname\@empty
9016       \Hy@Warning{%
9017         Empty destination name,\MessageBreak
9018         using '\Hy@undefinedname'%
9019       }%
9020       \let\Hy@testname\Hy@undefinedname
9021     \else
9022       \Hy@pstringdef\Hy@testname{%
9023         \expandafter\HyperDestNameFilter\expandafter{%
9024           \Hy@testname
9025         }%
9026       }%
9027     \fi
9028     \@pdfm@mark{%
9029       bann<<%
9030       /Type/Annot%
9031       /Subtype/Link%
9032       \ifHy@pdfa /F 4\fi
9033       \Hy@setpdfborder
9034       \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9035       \else
9036         /C[\csname @#1bordercolor\endcsname]%
9037       \fi
9038       /A<<%

```

```

9039      /S/GoTo%
9040      /D(\Hy@testname)%
9041      >>%
9042      >>%
9043      }%
9044      \expandafter\Hy@colorlink\csname @#1color\endcsname
9045      }%
9046      }
9047      \def\hyper@linkend{\Hy@EndAnnot}%
9048      \def\hyper@link#1#2#3{%
9049      \hyper@linkstart{#1}{#2}#3\hyper@linkend
9050      }
9051      \def\hyper@linkfile#1#2#3{%
9052      \leavevmode
9053      \Hy@BeginAnnot{%
9054      \Hy@pstringdef\Hy@pstringF{#2}%
9055      \Hy@pstringdef\Hy@pstringD{#3}%
9056      \@pdfm@mark{%
9057      bann<<%
9058      /Type/Annot%
9059      /Subtype/Link%
9060      \ifHy@pdfa /F 4\fi
9061      \Hy@setpdfborder
9062      \ifx\@filebordercolor\relax
9063      \else
9064      /C[\@filebordercolor]%
9065      \fi
9066      /A<<%
9067      /S/GoToR%
9068      /F(\Hy@pstringF)%
9069      /D\ifx\@#3\@0 \@pdfstartview\else(\Hy@pstringD)\fi
9070      \Hy@SetNewWindow
9071      >>%
9072      >>%
9073      }%
9074      \Hy@colorlink\@filecolor
9075      }%
9076      #1%
9077      \Hy@EndAnnot
9078      }
9079      \def\hyper@linkurl#1#2{%
9080      \leavevmode
9081      \Hy@BeginAnnot{%
9082      \Hy@pstringdef\Hy@pstringURI{#2}%
9083      \@pdfm@mark{%
9084      bann<<%
9085      /Type/Annot%
9086      /Subtype/Link%
9087      \ifHy@pdfa /F 4\fi
9088      \Hy@setpdfborder
9089      \ifx\@urlbordercolor\relax
9090      \else
9091      /C[\@urlbordercolor]%
9092      \fi
9093      /A<<%
9094      /S/URI%
9095      /URI(\Hy@pstringURI)%

```

```

9096     >>%
9097     >>%
9098   }%
9099   \Hy@colorlink\@urlcolor
9100 }%
9101 #1%
9102 \Hy@EndAnnot
9103 }
9104 \def\Acrobatmenu#1#2{%
9105   \Hy@Acrobatmenu{#1}{#2}{%
9106     \Hy@BeginAnnot{%
9107       \@pdfm@mark{%
9108         bann<<%
9109         /Type/Annot%
9110         /Subtype/Link%
9111         \ifHy@pdfa /F 4\fi
9112         /A<<%
9113         /S/Named%
9114         /N/#1%
9115         >>%
9116         \Hy@setpdfborder
9117         \ifx\@menubordercolor\relax
9118           \relax
9119           /C[\@menubordercolor]%
9120         \fi
9121         >>%
9122       }%
9123       \Hy@colorlink\@menucolor
9124     }%
9125     #2%
9126     \Hy@EndAnnot
9127   }%
9128 }
9129 \ifx\@pdfproducer\relax
9130 \def\@pdfproducer{dvipdfm}%

```

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

```

9131 \begingroup\expandafter\expandafter\expandafter\endgroup
9132 \expandafter\ifx\csname XeTeXversion\endcsname\relax
9133 \else
9134   \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
9135 \fi
9136 \fi
9137 \def\PDF@FinishDoc{%
9138   \Hy@UseMaketitleInfos
9139   \HyInfo@GenerateAddons
9140   \@pdfm@mark{%
9141     docinfo<<%
9142     /Title(\@pdftitle)%
9143     /Subject(\@pdfsubject)%
9144     /Creator(\@pdfcreator)%
9145     \ifx\@pdfcreationdate\@empty
9146       \else
9147       /CreationDate(\@pdfcreationdate)%
9148     \fi
9149     \ifx\@pdfmoddate\@empty
9150       \else
9151       /ModDate(\@pdfmoddate)%

```

```

9152 \fi
9153 /Author(\@pdfauthor)%
9154 \ifx\@pdfproducer\relax
9155 \else
9156 /Producer(\@pdfproducer)%
9157 \fi
9158 /Keywords(\@pdfkeywords)%
9159 \ifx\@pdftrapped\@empty
9160 \else
9161 /Trapped/\@pdftrapped
9162 \fi
9163 \HyInfo@Addons
9164 >>%
9165 }%
9166 \Hy@DisableOption{pdfauthor}%
9167 \Hy@DisableOption{pdftitle}%
9168 \Hy@DisableOption{pdfsubject}%
9169 \Hy@DisableOption{pdfcreator}%
9170 \Hy@DisableOption{pdfcreationdate}%
9171 \Hy@DisableOption{pdfmoddate}%
9172 \Hy@DisableOption{pdfproducer}%
9173 \Hy@DisableOption{pdfkeywords}%
9174 \Hy@DisableOption{pdftrapped}%
9175 \Hy@DisableOption{pdfinfo}%
9176 }
9177 \def\PDF@SetupDoc{%
9178 \edef\Hy@temp{%
9179 \ifHy@toolbar\else /HideToolbar true\fi
9180 \ifHy@menubar\else /HideMenubar true\fi
9181 \ifHy>windowui\else /HideWindowUI true\fi
9182 \ifHy@fitwindow /FitWindow true\fi
9183 \ifHy@centerwindow /CenterWindow true\fi
9184 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9185 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfmonfullscreenpagemode
9186 \Hy@UseNameKey{Direction}\@pdfdirection
9187 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9188 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9189 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9190 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9191 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9192 \Hy@UseNameKey{Duplex}\@pdfduplex
9193 \ifx\@pdfpicktraybypdfsize\@empty
9194 \else
9195 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9196 \fi
9197 \ifx\@pdfprintpagerange\@empty
9198 \else
9199 /PrintPageRange[\@pdfprintpagerange]%
9200 \fi
9201 \ifx\@pdfnumcopies\@empty
9202 \else
9203 /NumCopies \@pdfnumcopies
9204 \fi
9205 }%
9206 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9207 \@pdfm@mark{%
9208 docview<<%

```

```

9209 \ifx\@pdfstartpage\@empty
9210 \else
9211 \ifx\@pdfstartview\@empty
9212 \else
9213 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
9214 \fi
9215 \fi
9216 \ifx\@baseurl\@empty
9217 \else
9218 /URI<</Base(\Hy@pstringB)>>%
9219 \fi
9220 /PageMode/\@pdfpagemode
9221 \ifx\Hy@temp\@empty
9222 \else
9223 /ViewerPreferences<<\Hy@temp>>%
9224 \fi
9225 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9226 \ifx\@pdflang\@empty
9227 \else
9228 /Lang(\@pdflang)%
9229 \fi
9230 >>%
9231 }%
9232 \ifx\@pdfpagescrop\@empty
9233 \else
9234 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
9235 \fi
9236 }
9237 </dvipdfm | xetex>

```

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

```

9238 <*dvipdfm>
9239 \AtBeginShipoutFirst{%
9240 \ifHy@setpagesize
9241 \begingroup
9242 \@ifundefined{stockwidth}{%
9243 \ifdim\paperwidth>\z@
9244 \ifdim\paperheight>\z@
9245 \special{papersize=\the\paperwidth,\the\paperheight}%
9246 \fi
9247 \fi
9248 }{%
9249 \ifdim\stockwidth>\z@
9250 \ifdim\stockheight>\z@
9251 \special{papersize=\the\stockwidth,\the\stockheight}%
9252 \fi
9253 \fi
9254 }%
9255 \endgroup
9256 \fi
9257 \Hy@DisableOption{setpagesize}%
9258 }
9259 </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.

```
9260 \*vtexhtml
9261 \providecommand*\XR@ext}{htm}
9262 \RequirePackage{vtexhtml}
9263 \newif\if@Localurl
9264 \def\PDF@FinishDoc{}
9265 \def\PDF@SetupDoc{%
9266   \ifx\@baseurl\@empty
9267   \else
9268     \special{!direct <base href="\@baseurl">}%
9269   \fi
9270 }
9271 \def\@urltype{url}
9272 \def\hyper@link#1#2#3{%
9273   \Hy@VerboseLinkStart{#1}{#2}%
9274   \leavevmode
9275   \special{!direct <a href=%
9276     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
9277   #3%
9278   \special{!direct </a>}%
9279 }
9280 \def\hyper@linkurl#1#2{%
9281   \begingroup
9282     \hyper@chars
9283     \leavevmode
9284     \MathBSuppress=1\relax
9285     \special{!direct <a href=%
9286       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
9287     #1%
9288     \MathBSuppress=0\relax
9289     \special{!direct </a>}%
9290   \endgroup
9291 }
9292 \def\hyper@linkfile#1#2#3{%
9293   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\ \else\##3\fi}%
9294 }
9295 \def\hyper@linkstart#1#2{%
9296   \Hy@VerboseLinkStart{#1}{#2}%
9297   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
9298     \@Localurltrue
9299     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
9300   \else
9301     \@Localurlfalse
9302     \begingroup
9303       \hyper@chars
9304       \special{!aref \HyperDestNameFilter{#2}}%
9305     \endgroup
9306   \fi
9307 }
9308 \def\hyper@linkend{%
9309   \if@Localurl
9310     \special{!endaref}%
9311   \else
9312     \special{!direct </a>}%
```

```

9313 \fi
9314 }
9315 \def\hyper@anchorstart#1{%
9316 \Hy@SaveLastskip
9317 \Hy@VerboseAnchor{#1}%
9318 \begingroup
9319 \hyper@chars
9320 \special{!aname #1}%
9321 \special{!direct <a name=%
9322 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9323 \endgroup
9324 \Hy@activeanchortrue
9325 }
9326 \def\hyper@anchorend{%
9327 \special{!direct </a>}%
9328 \Hy@activeanchorfalse
9329 \Hy@RestoreLastskip
9330 }
9331 \def\hyper@anchor#1{%
9332 \Hy@SaveLastskip
9333 \Hy@VerboseAnchor{#1}%
9334 \begingroup
9335 \let\protect=\string
9336 \hyper@chars
9337 \leavevmode
9338 \special{!aname #1}%
9339 \special{!direct <a name=%
9340 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9341 \endgroup
9342 \Hy@activeanchortrue
9343 \bgroup\anchor@spot\egroup
9344 \special{!direct </a>}%
9345 \Hy@activeanchorfalse
9346 \Hy@RestoreLastskip
9347 }
9348 \def\@Form[#1]{%
9349 \typeout{Sorry, TeXpider does not yet support FORMs}%
9350 }
9351 \def\@endForm{}
9352 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9353 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
9354 }
9355 \def\@TextField[#1]#2{% parameters, label
9356 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
9357 }
9358 \def\@CheckBox[#1]#2{% parameters, label
9359 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
9360 }
9361 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9362 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
9363 }
9364 \def\@PushButton[#1]#2{% parameters, label
9365 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
9366 }
9367 \def\@Reset[#1]#2{%
9368 \typeout{Sorry, TeXpider does not yet support FORMs}%
9369 }

```



```

9370 \def\@Submit[#1]#2{%
9371   \typeout{Sorry, TeXpider does not yet support FORMs}%
9372 }
9373 </vtexhtml>
9374 <*\vtex>

```

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

```

9375 \ifx\mediaheight\@undefined
9376 \else
9377   \ifx\mediaheight\relax
9378   \else
9379     \ifHy@setpagesize
9380       \providecommand*\VTeXInitMediaSize{%
9381         \ltx@ifundefined{stockwidth}{%
9382           \ifdim\paperheight>0pt %
9383             \setlength\mediaheight\paperheight
9384           \fi
9385           \ifdim\paperheight>0pt %
9386             \setlength\mediawidth\paperwidth
9387           \fi
9388         }{%
9389           \ifdim\stockheight>0pt %
9390             \setlength\mediaheight\stockheight
9391           \fi
9392           \ifdim\stockwidth>0pt %
9393             \setlength\mediawidth\stockwidth
9394           \fi
9395         }%
9396       }%
9397       \Hy@AtBeginDocument{\VTeXInitMediaSize}%
9398     \fi
9399     \Hy@DisableOption{setpagesize}%
9400   \fi
9401 \fi

```

Older versions of VTeX require `xyz` in lower case.

```

9402 \providecommand*\@pdfview{xyz}
9403 \providecommand*\@pdfborder{0 0 1}
9404 \providecommand*\@pdfborderstyle{}
9405 \let\CurrentBorderColor\@linkbordercolor
9406 \def\hyper@anchor#1{%
9407   \Hy@SaveLastskip
9408   \Hy@VerboseAnchor{#1}%
9409   \begingroup
9410     \let\protect=\string
9411     \hyper@chars
9412     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9413   \endgroup
9414   \Hy@activeanchortrue
9415   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9416   \Hy@activeanchorfalse
9417   \Hy@RestoreLastskip
9418 }
9419 \def\hyper@anchorstart#1{%
9420   \Hy@SaveLastskip
9421   \Hy@VerboseAnchor{#1}%

```

```

9422 \begingroup
9423 \hyper@chars
9424 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9425 \endgroup
9426 \Hy@activeanchortrue
9427 }
9428 \def\hyper@anchorend{%
9429 \Hy@activeanchorfalse
9430 \Hy@RestoreLastskip
9431 }
9432 \def\@urlltype{url}
9433 \def\Hy@undefinedname{UNDEFINED}
9434 \def\hyper@linkstart#1#2{%
9435 \Hy@VerboseLinkStart{#1}{#2}%
9436 \Hy@pstringdef\Hy@pstringURI{#2}%
9437 \expandafter\Hy@colorlink\csname @#1color\endcsname
9438 \ltx@ifundefined{@#1bordercolor}{%
9439 \let\CurrentBorderColor\relax
9440 }{%
9441 \edef\CurrentBorderColor{%
9442 \csname @#1bordercolor\endcsname
9443 }%
9444 }%
9445 \def\Hy@tempa{#1}%
9446 \ifx\Hy@tempa\@urlltype
9447 \special{!%
9448 \href <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
9449 a=<%
9450 \ifHy@pdfa /F 4\fi
9451 \Hy@setpdfborder
9452 \ifx\CurrentBorderColor\relax
9453 \else
9454 /C [\CurrentBorderColor]%
9455 \fi
9456 >%
9457 }%
9458 \else
9459 \protected@edef\Hy@testname{#2}%
9460 \ifx\Hy@testname\@empty
9461 \Hy@Warning{%
9462 Empty destination name,\MessageBreak
9463 using '\Hy@undefinedname'%
9464 }%
9465 \let\Hy@testname\Hy@undefinedname
9466 \fi
9467 \special{!%
9468 \href \expandafter\HyperDestNameFilter
9469 \expandafter{\Hy@testname};%
9470 a=<%
9471 \ifHy@pdfa /F 4\fi
9472 \Hy@setpdfborder
9473 \ifx\CurrentBorderColor\relax
9474 \else
9475 /C [\CurrentBorderColor]%
9476 \fi
9477 >%
9478 }%

```

```

9479 \fi
9480 }
9481 \def\hyper@linkend{%
9482 \special{!endaref}%
9483 \Hy@endcolorlink
9484 }
9485 \def\hyper@linkfile#1#2#3{%
9486 \leavevmode
9487 \special{!%
9488   aref <%
9489   \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi
9490   f=#2>#3;%
9491   a=<%
9492     \ifHy@pdfa /F 4\fi
9493     \Hy@setpdfborder
9494     \ifx\@filebordercolor\relax
9495     \else
9496       /C [\@filebordercolor]%
9497     \fi
9498   >%
9499   }%
9500   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
9501   \special{!endaref}%
9502 }
9503 \def\hyper@linkurl#1#2{%
9504 \begingroup
9505 \Hy@pstringdef\Hy@pstringURI{#2}%
9506 \hyper@chars
9507 \leavevmode
9508 \special{!%
9509   aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
9510   a=<%
9511     \ifHy@pdfa /F 4\fi
9512     \Hy@setpdfborder
9513     \ifx\@urlbordercolor\relax
9514     \else
9515       /C [\@urlbordercolor]%
9516     \fi
9517   >%
9518   }%
9519   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9520   \special{!endaref}%
9521 \endgroup
9522 }
9523 \def\hyper@link#1#2#3{%
9524 \Hy@VerboseLinkStart{#1}{#2}%
9525 \ltx@ifundefined{@#1bordercolor}{%
9526 \let\CurrentBorderColor\relax
9527 }{%
9528 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9529 }%
9530 \leavevmode
9531 \protected@edef\Hy@testname{#2}%
9532 \ifx\Hy@testname\@empty
9533 \Hy@Warning{%
9534   Empty destination name,\MessageBreak
9535   using '\Hy@undefinedname'%

```

```

9536 }%
9537 \let\Hy@testname\Hy@undefinedname
9538 \fi
9539 \special{!%
9540   aref \expandafter\HyperDestNameFilter
9541     \expandafter{\Hy@testname};%
9542   a=<%
9543     \ifHy@pdfa /F 4\fi
9544     \Hy@setpdfborder
9545     \ifx\CurrentBorderColor\relax
9546     \else
9547       /C [\CurrentBorderColor]%
9548     \fi
9549   >%
9550 }%
9551 \expandafter
9552 \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
9553 \special{!endaref}%
9554 }
9555 \def\hyper@image#1#2{%
9556   \hyper@linkurl{#2}{#1}%
9557 }
9558 \def\@hyper@launch run:#1\#2#3{%
9559   \Hy@pstringdef\Hy@pstringF{#1}%
9560   \Hy@pstringdef\Hy@pstringP{#3}%
9561   \leavevmode
9562   \special{!aref %
9563     <u=%
9564       /Type/Action%
9565       /S/Launch%
9566       /F(\Hy@pstringF)%
9567       \Hy@SetNewWindow
9568       \ifx\#3\%
9569       \else
9570         /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
9571       \fi%
9572     >,%
9573     a=<%
9574       \ifHy@pdfa /F 4\fi
9575       \Hy@setpdfborder
9576       \ifx\@runbordercolor\relax
9577       \else
9578         /C[\@runbordercolor]%
9579       \fi
9580     >%
9581   }%
9582   \Hy@colorlink\@runcolor#2\Hy@endcolorlink
9583   \special{!endaref}%
9584 }
9585 \def\Acrobatmenu#1#2{%
9586   \Hy@Acrobatmenu{#1}{#2}{%
9587     \special{!%
9588       aref <u=/S /Named /N /#1>;%
9589     a=<%
9590       \ifHy@pdfa /F 4\fi
9591       \Hy@setpdfborder
9592       \ifx\@menubordercolor\relax

```

```

9593     \else
9594         /C[\@menubordercolor]%
9595     \fi
9596     >%
9597 }%
9598 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
9599 \special{!endaref}%
9600 }%
9601 }

```

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

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

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

```

9602 \ifnum\Hy@VTeXversion<702 %
9603 \else
9604 \def\hyper@pagetransition{%
9605 \ifx\@pdfpagetransition\relax
9606 \else
9607 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

9608 \else
9609 \hvtex@parse@trans\@pdfpagetransition
9610 \fi
9611 \fi
9612 }%

```

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

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

```

<transition\_effect> ::= <transition\_style>[,<transition\_duration>]
<transition\_style> ::= <Blinds\_effect> | <Box\_effect> |
                      <Dissolve\_effect> | <Glitter\_effect> |
                      <Split\_effect> | <Wipe\_effect>
<Blinds\_effect> ::= B[<effect\_dimension>]
<Box\_effect> ::= X[<effect\_motion>]
<Dissolve\_effect> ::= D
<Glitter\_effect> ::= G[<effect\_direction>]
<Split\_effect> ::= S[<effect\_motion>][<effect\_dimension>]
<Wipe\_effect> ::= W[<effect\_direction>]
<Replace\_effect> ::= R
<effect\_direction> ::= <number>
<effect\_dimension> ::= H | V
<effect\_motion> ::= I | O
<transition\_duration> ::= <number>

```

Transition codes:

```

9613 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
9614 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
9615 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
9616 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
9617 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
9618 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
9619 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

9620 \def\hvtex@par@dimension{/Dm}%

```

```

9621 \def\hvtex@par@direction{/Di}%
9622 \def\hvtex@par@duration{/D}%
9623 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

9624 \def\hvtex@gettoken{%
9625   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
9626 }%

```

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

```

9627 \def\hvtex@gettoken@#1 #2\@nil{%
9628   \edef\hvtex@token{#1}%
9629   \edef\hvtex@buffer{#2}%
9630 }%
9631 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

9632 \let\hvtex@trans@code\@empty
9633 \let\hvtex@param@dimension\@empty
9634 \let\hvtex@param@direction\@empty
9635 \let\hvtex@param@duration\@empty
9636 \let\hvtex@param@motion\@empty
9637 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

9638 \hvtex@gettoken
9639 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

9640   \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

9641   \else
9642     \hvtex@gettoken
9643   \fi
9644 \fi
9645 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

9646 \hvtex@trans@params
9647 }%

```

Reentrant macro to parse optional parameters.

```

9648 \def\hvtex@trans@params{%
9649   \ifx\hvtex@buffer\@empty
9650   \else
9651     \hvtex@gettoken
9652     \let\hvtex@trans@par\hvtex@token
9653     \ifx\hvtex@buffer\@empty
9654     \else
9655       \hvtex@gettoken
9656       \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.

```

9657         \let\hvtex@param@duration\hvtex@token
9658       \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

9659         \expandafter\edef\expandafter\hvtex@param@motion
9660         \expandafter{\expandafter\@gobble\hvtex@token}%
9661       \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

9662      \expandafter\edef\expandafter\hvtex@param@dimension
9663      \expandafter{\expandafter\@gobble\hvtex@token}%
9664      \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).

```

9665      \let\hvtex@param@direction\hvtex@token
9666      \fi\fi\fi\fi
9667      \fi
9668      \fi
9669      \ifx\hvtex@buffer\@empty
9670      \let\next\hvtex@produce@trans
9671      \else
9672      \let\next\hvtex@trans@params
9673      \fi
9674      \next
9675      }%

```

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

```

9676 \def\hvtex@produce@trans{%
9677 \let\vtex@trans@special\@empty
9678 \if S\hvtex@trans@code
9679 \edef\vtex@trans@special{\hvtex@trans@code
9680 \hvtex@param@dimension\hvtex@param@motion}%
9681 \else\if B\hvtex@trans@code
9682 \edef\vtex@trans@special{%
9683 \hvtex@trans@code\hvtex@param@dimension
9684 }%
9685 \else\if X\hvtex@trans@code
9686 \edef\vtex@trans@special{%
9687 \hvtex@trans@code\hvtex@param@motion
9688 }%
9689 \else\if W\hvtex@trans@code
9690 \edef\vtex@trans@special{%
9691 \hvtex@trans@code\hvtex@param@direction
9692 }%
9693 \else\if D\hvtex@trans@code
9694 \let\vtex@trans@special\hvtex@trans@code
9695 \else\if R\hvtex@trans@code
9696 \let\vtex@trans@special\hvtex@trans@code
9697 \else\if G\hvtex@trans@code
9698 \edef\vtex@trans@special{%
9699 \hvtex@trans@code\hvtex@param@direction
9700 }%
9701 \fi\fi\fi\fi\fi\fi
9702 \ifx\vtex@trans@special\@empty
9703 \else
9704 \ifx\hvtex@param@duration\@empty
9705 \else
9706 \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

9707 \multiply\dimen@\@m
9708 \edef\vtex@trans@special{%
9709 \vtex@trans@special,\strip@pt\dimen@
9710 }%

```

```

9711 \fi
      And all the mess is just for this.
9712 \special{!trans \vtex@trans@special}%
9713 \fi
9714 }%

9715 \def\hyper@pageduration{%
9716 \ifx\@pdfpageduration\relax
9717 \else
9718 \ifx\@pdfpageduration\@empty
9719 \special{!duration-}%
9720 \else
9721 \special{!duration \@pdfpageduration}%
9722 \fi
9723 \fi
9724 }%

9725 \def\hyper@pagehidden{%
9726 \ifHy@useHidKey
9727 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
9728 \fi
9729 }%

9730 \g@addto@macro\Hy@EveryPageBoxHook{%
9731 \hyper@pagetransition
9732 \hyper@pageduration
9733 \hyper@pagehidden
9734 }%
9735 \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

```

9736 \ifx\@pdfproducer\relax
9737 \def\@pdfproducer{VTeX}%
9738 \ifnum\Hy@VTeXversion>\z@
9739 \count@\VTeXversion
9740 \divide\count@ 100 %
9741 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
9742 \multiply\count@ -100 %
9743 \advance\count@\VTeXversion
9744 \edef\@pdfproducer{%
9745 \@pdfproducer
9746 .\ifnum\count@<10 0\fi\the\count@
9747 \ifx\VTeXOS\@undefined\else
9748 \ifnum\VTeXOS>0 %
9749 \ifnum\VTeXOS<6 %
9750 \space(
9751 \ifcase\VTeXOS
9752 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
9753 \fi
9754 )%
9755 \fi

```



```

9756     \fi
9757     \fi
9758     ,\space
9759     \ifnum\OpMode=\@ne PDF\else PS\fi
9760     \space backend%
9761     \ifx\gexmode\@undefined\else
9762         \ifnum\gexmode>z@\space with GeX\fi
9763     \fi
9764 }%
9765 \fi
9766 \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).

```

9767 \def\PDF@SetupDoc{%
9768     \ifx\@pdfpagescrop\@empty
9769     \else
9770         \special{!pdfinfo b=<\@pdfpagescrop>}%
9771     \fi
9772     \ifx\@pdfstartpage\@empty
9773     \else
9774         \ifx\@pdfstartview\@empty
9775         \else
9776             \special{!onopen Page\@pdfstartpage}%
9777         \fi
9778     \fi
9779     \special{!pdfinfo p=</\@pdfpagemode>}%
9780     \ifx\@baseurl\@empty
9781     \else
9782         \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
9783     \fi
9784     \special{!pdfinfo v=<<<%
9785         \ifHy@toolbar\else /HideToolbar true\fi
9786         \ifHy@menubar\else /HideMenubar true\fi
9787         \ifHy>windowui\else /HideWindowUI true\fi
9788         \ifHy@fitwindow /FitWindow true\fi
9789         \ifHy@centerwindow /CenterWindow true\fi
9790         \ifHy@displaydoctitle /DisplayDocTitle true\fi
9791         \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9792         \Hy@UseNameKey{Direction}\@pdfdirection
9793         \Hy@UseNameKey{ViewArea}\@pdfviewarea
9794         \Hy@UseNameKey{ViewClip}\@pdfviewclip
9795         \Hy@UseNameKey{PrintArea}\@pdfprintarea
9796         \Hy@UseNameKey{PrintClip}\@pdfprintclip
9797         \Hy@UseNameKey{PrintScaling}\@pdfprintscaling

```

```

9798 \Hy@UseNameKey{Duplex}\@pdfduplex
9799 \ifx\@pdfpicktraybypdfsize\@empty
9800 \else
9801   /PickTrayByPDFSize \@pdfpicktraybypdfsize
9802 \fi
9803 \ifx\@pdfprintpagerange\@empty
9804 \else
9805   /PrintPageRange[\@pdfprintpagerange]%
9806 \fi
9807 \ifx\@pdfnumcopies\@empty
9808 \else
9809   /NumCopies \@pdfnumcopies
9810 \fi
9811 >>>}%
9812 \ifx\@pdfpagelayout\@empty
9813 \else
9814   \special{!pdfinfo l=</\@pdfpagelayout\space>}%
9815 \fi
9816 }%
9817 \HyInfo@AddonUnsupportedtrue
9818 \def\PDF@FinishDoc{%
9819   \Hy@UseMaketitleInfos
9820   \HyInfo@TrappedUnsupported
9821   \special{!pdfinfo a=<\@pdfauthor>}%
9822   \special{!pdfinfo t=<\@pdftitle>}%
9823   \special{!pdfinfo s=<\@pdfsubject>}%
9824   \special{!pdfinfo c=<\@pdfcreator>}%
9825   \ifx\@pdfproducer\relax
9826   \else
9827     \special{!pdfinfo r=<\@pdfproducer>}%
9828   \fi
9829   \special{!pdfinfo k=<\@pdfkeywords>}%
9830   \Hy@DisableOption{pdfauthor}%
9831   \Hy@DisableOption{pdftitle}%
9832   \Hy@DisableOption{pdfsubject}%
9833   \Hy@DisableOption{pdfcreator}%
9834   \Hy@DisableOption{pdfcreationdate}%
9835   \Hy@DisableOption{pdfmoddate}%
9836   \Hy@DisableOption{pdfproducer}%
9837   \Hy@DisableOption{pdfkeywords}%
9838   \Hy@DisableOption{pdftrapped}%
9839   \Hy@DisableOption{pdfinfo}%
9840 }
9841 </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.

```

9842 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
9843 <package>\providecommand*{\Hy@DistillerDestFix}{%
9844 <*pdfmark | dviwindo>
9845 \def\Hy@DistillerDestFix{%
9846 \begingroup
9847 \let\x\literalps@out

```

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

```

9848 \ifnum \@ifundefined{OpMode}{0}{%
9849 \ifundefined{gexmode}{0}{%
9850 \ifnum\gexmode>0 \OpMode\else 0\fi
9851 }>1 %
9852 \def\x##1{%
9853 \immediate\special{!=##1}%
9854 }%
9855 \fi
9856 \x{%
9857 /product where{%
9858 pop %
9859 product(Distiller)search{%
9860 pop pop pop %
9861 version(.)search{%
9862 exch pop exch pop%
9863 (3011)eq{%
9864 gsave %
9865 newpath 0 0 moveto closepath clip%
9866 /Courier findfont 10 scalefont setfont %
9867 72 72 moveto(.)show %
9868 grestore%
9869 }if%
9870 }{pop}ifelse%
9871 }{pop}ifelse%
9872 }if%
9873 }%
9874 \endgroup
9875 }
9876 </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

```

9877 <*pdfmark>
9878 \Hy@breaklinks@unsupported
9879 \def\hyper@anchor#1{%

```

```

9880 \Hy@SaveLastskip
9881 \Hy@VerboseAnchor{#1}%
9882 \begingroup
9883 \pdfmark[\anchor@spot]{%
9884   pdfmark=/DEST,%
9885   linktype=anchor,%
9886   View=/\@pdfview \@pdfviewparams,%
9887   DestAnchor={#1}%
9888 }%
9889 \endgroup
9890 \Hy@RestoreLastskip
9891 }
9892 \ltx@ifundefined{hyper@anchorstart}{\endinput}
9893 \def\hyper@anchorstart#1{%
9894   \Hy@SaveLastskip
9895   \Hy@VerboseAnchor{#1}%
9896   \literalps@out{H.S}%
9897   \Hy@AllowHyphens
9898   \xdef\hyper@currentanchor{#1}%
9899   \Hy@activeanchortrue
9900 }
9901 \def\hyper@anchorend{%
9902   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
9903   \pdfmark{%
9904     pdfmark=/DEST,%
9905     linktype=anchor,%
9906     View=/\@pdfview \@pdfviewparams,%
9907     DestAnchor=\hyper@currentanchor,%
9908   }%
9909   \Hy@activeanchorfalse
9910   \Hy@RestoreLastskip
9911 }
9912 \def\hyper@linkstart#1#2{%
9913   \Hy@VerboseLinkStart{#1}{#2}%
9914   \ifHy@breaklinks
9915   \else
9916     \leavevmode\hbox\bgroup
9917     \fi
9918     \expandafter\Hy@colorlink\csname @#1color\endcsname
9919     \literalps@out{H.S}%
9920     \Hy@AllowHyphens
9921     \xdef\hyper@currentanchor{#2}%
9922     \gdef\hyper@currentlinktype{#1}%
9923 }
9924 \def\hyper@linkend{%
9925   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
9926   \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
9927     \let\Hy@tempcolor\relax
9928   }{%
9929     \edef\Hy@tempcolor{%
9930       \csname @\hyper@currentlinktype bordercolor\endcsname
9931     }%
9932   }%
9933   \pdfmark{%
9934     pdfmark=/ANN,%
9935     linktype=link,%
9936     Subtype=/Link,%

```

```

9937   PDFAFlags=4,%
9938   Dest=\hyper@currentanchor,%
9939   AcroHighlight=\@pdfhighlight,%
9940   Border=\@pdfborder,%
9941   BorderStyle=\@pdfborderstyle,%
9942   Color=\Hy@tempcolor,%
9943   Raw=H.B%
9944 }%
9945 \Hy@endcolorlink
9946 \ifHy@breaklinks
9947 \else
9948   \egroup
9949 \fi
9950 }

```

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.

```

9951 \begingroup
9952 \catcode'P=12 %
9953 \catcode'T=12 %
9954 \lowercase{\endgroup
9955 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>z@.#2\fi}%
9956 }
9957 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

9958 \def\hyper@pagetransition{%
9959   \ifx\@pdfpagetransition\relax
9960   \else
9961     \ifx\@pdfpagetransition\@empty
9962       % 1. Does an old entry have to be deleted?
9963       % 2. If 1=yes, how to delete?
9964     \else
9965       \pdfmark{%
9966         pdfmark=/PUT,%
9967         Raw={%
9968           \string{ThisPage\string}%
9969           <</Trans << /S /\@pdfpagetransition\space >> >>%
9970         }%
9971       }%
9972     \fi
9973 \fi
9974 }

```

`\hyper@pageduration`

```

9975 \def\hyper@pageduration{%
9976   \ifx\@pdfpageduration\relax
9977   \else
9978     \ifx\@pdfpageduration\@empty
9979       % 1. Does an old entry have to be deleted?
9980       % 2. If 1=yes, how to delete?
9981     \else
9982       \pdfmark{%
9983         pdfmark=/PUT,%
9984         Raw={%
9985           \string{ThisPage\string}%

```

```

9986      <</Dur \@pdfpageduration>>%
9987      }%
9988      }%
9989      \fi
9990      \fi
9991      }

```

\hyper@pagehidden

```

9992 \def\hyper@pagehidden{%
9993   \ifHy@useHidKey
9994     \pdfmark{%
9995       pdfmark=/PUT,%
9996       Raw={%
9997         \string{ThisPage\string}%
9998         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9999       }%
10000     }%
10001   \fi
10002 }

10003 \g@addto@macro\Hy@EveryPageBoxHook{%
10004   \hyper@pagetransition
10005   \hyper@pageduration
10006   \hyper@pagehidden
10007 }

10008 \def\hyper@image#1#2{%
10009   \hyper@linkurl{#2}{#1}%
10010 }
10011 \def\Hy@undefinedname{UNDEFINED}
10012 \def\hyper@link#1#2#3{%
10013   \Hy@VerboseLinkStart{#1}{#2}%
10014   \ltx@ifundefined{@#1bordercolor}{%
10015     \let\Hy@tempcolor\relax
10016   }{%
10017     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
10018   }%
10019   \begingroup
10020     \protected@edef\Hy@testname{#2}%
10021     \ifx\Hy@testname\@empty
10022       \Hy@Warning{%
10023         Empty destination name,\MessageBreak
10024         using '\Hy@undefinedname'%
10025       }%
10026     \let\Hy@testname\Hy@undefinedname
10027   \fi
10028   \pdfmark[{#3}]{%
10029     Color=\Hy@tempcolor,%
10030     linktype={#1},%
10031     AcroHighlight=\@pdfhighlight,%
10032     Border=\@pdfborder,%
10033     BorderStyle=\@pdfborderstyle,%
10034     pdfmark=/ANN,%
10035     Subtype=/Link,%
10036     PDFAFlags=4,%
10037     Dest=\Hy@testname
10038   }%
10039   \endgroup

```

```

10040 }
10041 \newtoks\pdf@docset
10042 \def\PDF@FinishDoc{%
10043   \Hy@UseMaketitleInfos
10044   \HyInfo@GenerateAddons
10045   \let\Hy@temp\@empty
10046   \ifx\@pdfcreationdate\@empty
10047   \else
10048     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
10049   \fi
10050   \ifx\@pdfmoddate\@empty
10051   \else
10052     \expandafter\def\expandafter\Hy@temp\expandafter{%
10053       \Hy@temp
10054       ModDate=\@pdfmoddate,%
10055     }%
10056   \fi
10057   \ifx\@pdfproducer\relax
10058   \else
10059     \expandafter\def\expandafter\Hy@temp\expandafter{%
10060       \Hy@temp
10061       Producer=\@pdfproducer,%
10062     }%
10063   \fi
10064   \expandafter
10065   \pdfmark\expandafter{%
10066     \Hy@temp
10067     pdfmark=/DOCINFO,%
10068     Title=\@pdftitle,%
10069     Subject=\@pdfsubject,%
10070     Creator=\@pdfcreator,%
10071     Author=\@pdfauthor,%
10072     Keywords=\@pdfkeywords,%
10073     Trapped=\@pdftrapped
10074   }%
10075   \ifx\HyInfo@Addons\@empty
10076   \else
10077     \pdfmark{%
10078       pdfmark=/DOCINFO,%
10079       Raw={\HyInfo@Addons}%
10080     }%
10081   \fi
10082   \Hy@DisableOption{pdfauthor}%
10083   \Hy@DisableOption{pdftitle}%
10084   \Hy@DisableOption{pdfsubject}%
10085   \Hy@DisableOption{pdfcreator}%
10086   \Hy@DisableOption{pdfcreationdate}%
10087   \Hy@DisableOption{pdfmoddate}%
10088   \Hy@DisableOption{pdfproducer}%
10089   \Hy@DisableOption{pdfkeywords}%
10090   \Hy@DisableOption{pdftrapped}%
10091   \Hy@DisableOption{pdfinfo}%
10092 }
10093 \def\PDF@SetupDoc{%
10094   \def\Hy@temp{}%
10095   \ifx\@pdfstartpage\@empty
10096   \else

```

```

10097 \ifx\@pdfstartview\@empty
10098 \else
10099 \edef\Hy@temp{%
10100   ,Page=\@pdfstartpage
10101   ,View=\@pdfstartview
10102 }%
10103 \fi
10104 \fi
10105 \edef\Hy@temp{%
10106 \noexpand\pdfmark{%
10107   pdfmark=/DOCVIEW,%
10108   PageMode=/\@pdfpagemode
10109   \Hy@temp
10110 }%
10111 }%
10112 \Hy@temp
10113 \ifx\@pdfpagescrop\@empty
10114 \else
10115 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10116 \fi
10117 \edef\Hy@temp{%
10118 \ifHy@toolbar\else /HideToolbar true\fi
10119 \ifHy@menubar\else /HideMenubar true\fi
10120 \ifHy>windowui\else /HideWindowUI true\fi
10121 \ifHy@fitwindow /FitWindow true\fi
10122 \ifHy@centerwindow /CenterWindow true\fi
10123 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10124 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10125 \Hy@UseNameKey{Direction}\@pdfdirection
10126 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10127 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10128 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10129 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10130 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10131 \Hy@UseNameKey{Duplex}\@pdfduplex
10132 \ifx\@pdfpicktraybypdfsize\@empty
10133 \else
10134 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10135 \fi
10136 \ifx\@pdfprintpagerange\@empty
10137 \else
10138 /PrintPageRange[\@pdfprintpagerange]%
10139 \fi
10140 \ifx\@pdfnumcopies\@empty
10141 \else
10142 /NumCopies \@pdfnumcopies
10143 \fi
10144 }%
10145 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10146 \pdfmark{%
10147   pdfmark=/PUT,%
10148   Raw={%
10149     \string{Catalog\string}<<%
10150     \ifx\Hy@temp\@empty
10151     \else
10152     /ViewerPreferences<<\Hy@temp>>%
10153     \fi

```



```

10154 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10155 \ifx\@pdflang\@empty
10156 \else
10157 /Lang(\@pdflang)%
10158 \fi
10159 \ifx\@baseurl\@empty
10160 \else
10161 /URI<</Base(\Hy@pstringB)>>%
10162 \fi
10163 >>%
10164 }%
10165 }%
10166 }
10167 </pdfmark>
10168 <*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.

```

10169 \newif\ifHy@pdfmarkerror
10170 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
10171 \def\pdfmark@[#1]#2{%
10172 \Hy@pdfmarkerrorfalse
10173 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
10174 \@processme
10175 \let\pdf@type\relax
10176 \setkeys{PDF}{#2}%
10177 \ifHy@pdfmarkerror
10178 \else
10179 \ifx\pdf@type\relax
10180 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
10181 \ifx\#1\%
10182 \else
10183 \pdf@rect{#1}%
10184 \fi
10185 \else
10186 \ifx\#1\%
10187 \literalps@out{%
10188 [\the\pdf@toks\space\pdf@type\space pdfmark%
10189 }%
10190 \else
10191 \ltx@ifundefined{\pdf@linktype color}{%
10192 \Hy@colorlink\@linkcolor
10193 }{%
10194 \expandafter\Hy@colorlink
10195 \csname @\pdf@linktype color\endcsname
10196 }%
10197 \pdf@rect{#1}%
10198 \literalps@out{%
10199 [\the\pdf@toks\space\pdf@type\space pdfmark%
10200 }%
10201 \Hy@endcolorlink
10202 \fi
10203 \fi
10204 \fi

```

10205 }

The complicated bit is working out the right enclosing rectangle of some piece of T<sub>E</sub>X 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}
```

```
10206 \newsavebox{\pdf@box}
10207 \providecommand*{\Hy@setouterhbox}{\sbox}
10208 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
10209 \def\Hy@DEST{/DEST}
10210 \def\pdf@rect#1{%
10211   \leavevmode
10212   \ifHy@breaklinks
10213     \Hy@setouterhbox\pdf@box{\Hy@AllowHyphens#1}%
10214   \else
10215     \sbox\pdf@box{#1}%
10216   \fi
10217   \dimen@ht\pdf@box
10218   \ifdim\dp\pdf@box=\z@
10219     \literalps@out{H.S}%
10220   \else
10221     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
10222   \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. . .).

```
10223 \ifHy@breaklinks
10224   \expandafter\Hy@breaklinksunhbox
10225 \else
10226   \expandafter\box
10227 \fi
10228 \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
```

```
10229 \ifdim\dimen@=\z@
10230   \literalps@out{H.R}%
10231 \else
10232   \raise\dimen@\hbox{\literalps@out{H.R}}%
10233 \fi
10234 \ifx\pdf@type\Hy@DEST
10235 \else
10236   \pdf@addtoksx{H.B}%
10237 \fi
10238 }
```

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.

```

10239 \newtoks\pdf@toks
10240 \newtoks\pdf@defaulttoks
10241 \pdf@defaulttoks={}%
10242 \def\pdf@addtoks#1#2{%
10243   \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
10244   \@processme
10245 }
10246 \def\pdf@addtoksx#1{%
10247   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
10248   \@processme
10249 }
10250 \def\PDFdefaults#1{%
10251   \pdf@defaulttoks={#1}%
10252 }

```

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

```

10253 % what is the type of pdfmark?
10254 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
10255 % what is the link type?
10256 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
10257 \def\pdf@linktype{link}
10258 % parameter is a stream of PDF
10259 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
10260 % parameter is a name
10261 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
10262 % parameter is a array
10263 \define@key{PDF}{Border}{%
10264   \edef\Hy@temp{#1}%
10265   \ifx\Hy@temp\@empty
10266     \else
10267       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
10268     \fi
10269 }
10270 \let\Hy@BorderArrayPatch\@empty
10271 % parameter is a dictionary
10272 \define@key{PDF}{BorderStyle}{%
10273   \edef\Hy@temp{#1}%
10274   \ifx\Hy@temp\@empty
10275     \else
10276       \pdf@addtoks{<<#1>>}{BS}%
10277     \fi
10278 }
10279 % parameter is a array
10280 \define@key{PDF}{Color}{%
10281   \ifx\relax#1\relax
10282     \else
10283       \pdf@addtoks{[#1]}{Color}% hash-ok
10284     \fi
10285 }
10286 % parameter is a string
10287 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
10288 % parameter is a integer
10289 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
10290 % parameter is a array
10291 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
10292 % parameter is a string
10293 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
10294 % parameter is a string or file

```

```

10295 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
10296 % parameter is a destination
10297 \define@key{PDF}{Dest}{%
10298   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10299   \ifx\Hy@pstringDest\@empty
10300     \Hy@pdfmarkerrortrue
10301     \Hy@Warning{Destination with empty name ignored}%
10302   \else
10303     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10304   \fi
10305 }
10306 \define@key{PDF}{DestAnchor}{%
10307   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10308   \ifx\Hy@pstringDest\@empty
10309     \Hy@pdfmarkerrortrue
10310     \Hy@Warning{Destination with empty name ignored}%
10311   \else
10312     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10313   \fi
10314 }
10315 % parameter is a string
10316 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
10317 % parameter is a string
10318 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
10319 % parameter is a int
10320 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
10321 \define@key{PDF}{PDFAFlags}{%
10322   \ifHy@pdfa
10323     \pdf@addtoks{#1}{F}%
10324   \fi
10325 }
10326 % parameter is a name
10327 \define@key{PDF}{AcroHighlight}{%
10328   \begingroup
10329     \edef\x{#1}%
10330     \expandafter\endgroup\ifx\x\@empty
10331     \else
10332       \pdf@addtoks{#1}{H}%
10333     \fi
10334 }
10335 % parameter is a string
10336 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
10337 % parameter is a string
10338 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
10339 % parameter is a string
10340 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10341 % parameter is a string
10342 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
10343 % parameter is a Boolean
10344 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
10345 % parameter is a integer or name
10346 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
10347 % parameter is a name
10348 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
10349 % parameter is a string
10350 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
10351 % parameter is a array

```

```

10352 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
10353 % parameter is a integer
10354 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
10355 % parameter is a name
10356 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
10357 % parameter is a string
10358 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
10359 % parameter is a string
10360 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
10361 % parameter is a string
10362 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
10363 % parameter is an array
10364 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
10365 % parameter is a string
10366 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

10367 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
10368 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
10369 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
10370 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10371 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
10372 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
10373 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
10374 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10375 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
10376 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
10377 \define@key{PDF}{Trapped}{%
10378   \edef\Hy@temp{#1}%
10379   \ifx\Hy@temp\empty
10380     \else
10381       \pdf@addtoks{/#1}{Trapped}%
10382     \fi
10383 }
10384
10385 </pdfmarkbase>
10386 <*pdfmark>
10387 \def\Acrobatmenu#1#2{%
10388   \Hy@Acrobatmenu{#1}{#2}{%
10389     \pdfmark[{#2]}{%
10390       linktype=menu,%
10391       pdfmark=/ANN,%
10392       AcroHighlight=\@pdfhighlight,%
10393       Border=\@pdfborder,%
10394       BorderStyle=\@pdfborderstyle,%
10395       Action={<< /Subtype /Named /N /#1 >>},%
10396       Subtype=/Link,%
10397       PDFAFlags=4%
10398     }%
10399   }%
10400 }

```

And now for some useful examples:

```

10401 \def\PDFNextPage{\ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
10402 \def\PDFNextPage@[#1]#2{%
10403   \pdfmark[{#2]}{%
10404     #1,%
10405     Border=\@pdfborder,%

```

```

10406   BorderStyle=\@pdfborderstyle,%
10407   Color=.2 .1 .5,%
10408   pdfmark=/ANN,%
10409   Subtype=/Link,%
10410   PDFAFlags=4,%
10411   Page=/Next%
10412 }%
10413 }
10414 \def\PDFPreviousPage{%
10415   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
10416 }
10417 \def\PDFPreviousPage@[#1]#2{%
10418   \pdfmark[{#2}]{%
10419     #1,%
10420     Border=\@pdfborder,%
10421     BorderStyle=\@pdfborderstyle,%
10422     Color=.4 .4 .1,%
10423     pdfmark=/ANN,%
10424     Subtype=/Link,%
10425     PDFAFlags=4,%
10426     Page=/Prev%
10427   }%
10428 }
10429 \def\PDFOpen#1{%
10430   \pdfmark{#1,pdfmark=/DOCVIEW}%
10431 }

```

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

```

10432 \def\hyper@linkurl#1#2{%
10433   \begingroup
10434     \Hy@pstringdef\Hy@pstringURI{#2}%
10435     \hyper@chars
10436     \leavevmode
10437     \pdfmark[{#1}]{%
10438       pdfmark=/ANN,%
10439       linktype=url,%
10440       AcroHighlight=\@pdfhighlight,%
10441       Border=\@pdfborder,%
10442       BorderStyle=\@pdfborderstyle,%
10443       Color=\@urlbordercolor,%
10444       Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
10445       Subtype=/Link,%
10446       PDFAFlags=4%
10447     }%
10448   \endgroup
10449 }
10450 \def\hyper@linkfile#1#2#3{%
10451   \begingroup
10452     \Hy@pstringdef\Hy@pstringF{#2}%
10453     \Hy@pstringdef\Hy@pstringD{#3}%
10454     \leavevmode
10455     \pdfmark[{#1}]{%
10456       pdfmark=/ANN,%
10457       Subtype=/Link,%
10458       PDFAFlags=4,%
10459       AcroHighlight=\@pdfhighlight,%
10460       Border=\@pdfborder,%
10461       BorderStyle=\@pdfborderstyle,%

```

```

10462 linktype=file,%
10463 Color=\@filebordercolor,%
10464 Action={%
10465 <<%
10466 /S/GoToR%
10467 \Hy@SetNewWindow
10468 /F(\Hy@pstringF)%
10469 /D\ifx\#3\[\0 \@pdfstartview]\else(\Hy@pstringD)cvn\fi
10470 >>%
10471 }%
10472 }%
10473 \endgroup
10474 }
10475 \def\@hyper@launch run:#1\#2#3{%
10476 \begingroup
10477 \Hy@pstringdef\Hy@pstringF{#1}%
10478 \Hy@pstringdef\Hy@pstringP{#3}%
10479 \leavevmode
10480 \pdfmark[{#2}]{%
10481 pdfmark=/ANN,%
10482 Subtype=/Link,%
10483 PDFAFlags=4,%
10484 AcroHighlight=\@pdfhighlight,%
10485 Border=\@pdfborder,%
10486 BorderStyle=\@pdfborderstyle,%
10487 linktype=run,%
10488 Color=\@runbordercolor,%
10489 Action={%
10490 <<%
10491 /S/Launch%
10492 \Hy@SetNewWindow
10493 /F(\Hy@pstringF)%
10494 \ifx\#3\%
10495 \else
10496 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10497 \fi
10498 >>%
10499 }%
10500 }%
10501 \endgroup
10502 }
10503 \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.

```

10504 (*dvips)
10505 \providecommand*{\XR@ext}{pdf}
10506 \def\Hy@raisedlink{}
10507 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
10508 \def\headerps@out#1{\special{! #1}}%
10509 \input{pdfmark.def}%

```

```

10510 \ifx\@pdfproducer\relax
10511 \def\@pdfproducer{dvips + Distiller}%
10512 \fi
10513 \providecommand*\@pdfborder{0 0 1}
10514 \providecommand*\@pdfborderstyle{}
10515 \providecommand*\@pdfview{XYZ}
10516 \providecommand*\@pdfviewparams{ H.V}
10517 \def\Hy@BorderArrayPatch{BorderArrayPatch}

10518 \g@addto@macro\Hy@FirstPageHook{%
10519 \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.

```

10520 /DvipsToPDF{72.27 mul Resolution div} def%
10521 /PDFToDvips{72.27 div Resolution mul} def%
10522 /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.

```

10523 /BorderArrayPatch{%
10524   [exch{%
10525     dup dup type/integertype eq exch type/realtype eq or%
10526     {BPToDvips}if%
10527   }forall]%
10528   }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.

```

10529 /HyperBorder {1 PDFToDvips} def%
10530 /H.V {pdf@hoff pdf@voff null} def%
10531 /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

```

10532 /H.S {%
10533   currentpoint %
10534   HyperBorder add /pdf@lly exch def %
10535   dup DvipsToPDF 72 add /pdf@hoff exch def %
10536   HyperBorder sub /pdf@llx exch def%
10537 } def%

```

The calculation of upper left *y* is done without raising the point in T<sub>E</sub>X, 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

```

10538 /H.L {%
10539 2 sub dup%
10540 /HyperBasePt exch def %
10541 PDFToDvips /HyperBaseDvips exch def %
10542 currentpoint %
10543 HyperBaseDvips sub /pdf@ury exch def%
10544 /pdf@urx exch def%
10545 } def%
10546 /H.A {%
10547 H.L %
10548 % | /pdf@voff| = the distance from the top of the page to a point
10549 % | \baselineskip| above the current point in PDF coordinates
10550 currentpoint exch pop %
10551 vsize 72 sub exch DvipsToPDF %
10552 HyperBasePt sub % baseline skip
10553 sub /pdf@voff exch def%
10554 } def%
10555 /H.R {%
10556 currentpoint %
10557 HyperBorder sub /pdf@ury exch def %
10558 HyperBorder add /pdf@urx exch def %
10559 % | /pdf@voff| = the distance from the top of the page to the current point, in
10560 % PDF coordinates
10561 currentpoint exch pop vsize 72 sub %
10562 exch DvipsToPDF sub /pdf@voff exch def%
10563 } def%
10564 }%
10565 }
10566 \AtBeginShipoutFirst{%
10567 \ifHy@setpagesize
10568 \begingroup
10569 \@ifundefined{stockwidth}{%
10570 \ifdim\paperwidth>\z@
10571 \ifdim\paperheight>\z@
10572 \special{papersize=\the\paperwidth,\the\paperheight}%
10573 \fi
10574 \fi
10575 }{%
10576 \ifdim\stockwidth>\z@
10577 \ifdim\stockheight>\z@
10578 \special{papersize=\the\stockwidth,\the\stockheight}%
10579 \fi
10580 \fi
10581 }%
10582 \endgroup
10583 \fi
10584 \Hy@DisableOption{setpagesize}%
10585 }
10586 \</dvips>

```

## 46.10 VTeX's vtexpdfmark driver

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

The origin seems to be the same as TeX's origin, 1 in from the left and 1 in downwards from the top. The direction of the  $y$  axis is downwards, the opposite of the dvips case.

Units seems to be pt or bp.

```

10587 <*vtexpdfmark>
10588 \providecommand*{\XR@ext}{pdf}
10589 \def\Hy@raisedlink{}
10590 \def\literalps@out#1{\special{pS:#1}}%
10591 \def\headerps@out#1{\immediate\special{pS:#1}}%
10592 \input{pdfmark.def}%
10593 \ifx\@pdfproducer\relax
10594   \ifnum\OpMode=\@ne
10595     \def\@pdfproducer{VTeX}%
10596   \else
10597     \def\@pdfproducer{VTeX + Distiller}%
10598   \fi
10599 \fi
10600 \providecommand*\@pdfborder{0 0 1}
10601 \providecommand*\@pdfborderstyle{}
10602 \providecommand*\@pdfview{XYZ}
10603 \providecommand*\@pdfviewparams{ H.V}
10604 \g@addto@macro\Hy@FirstPageHook{%
10605   \headerps@out{%
10606     /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.

```

10607   /HyperBorder {1} def%
10608   /H.V {pdf@hoff pdf@voff null} def%
10609   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

10610   /H.S {%
10611     currentpoint %
10612     HyperBorder sub%
10613     /pdf@lly exch def %
10614     dup 72 add /pdf@hoff exch def %
10615     HyperBorder sub%
10616     /pdf@llx exch def%
10617   } def%

```

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

```

10618   /H.L {%
10619     2 sub%
10620     /HyperBasePt exch def %
10621     currentpoint %
10622     HyperBasePt add HyperBorder add%
10623     /pdf@ury exch def %
10624     HyperBorder add%
10625     /pdf@urx exch def%
10626   } def%
10627   /H.A {%
10628     H.L %
10629     currentpoint exch pop %
10630     vsize 72 sub exch %
10631     HyperBasePt add add%
10632     /pdf@voff exch def%
10633   } def%

```

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

```

10634 /H.R {%
10635   currentpoint %
10636   HyperBorder add%
10637 /pdf@ury exch def %
10638   HyperBorder add%
10639 /pdf@urx exch def %
10640   currentpoint exch pop vsize 72 sub add%
10641 /pdf@voff exch def%
10642 } def%
10643 }%
10644 }
10645 \</vtxpdfmark>

```

## 46.11 Textures

```

10646 \<*textures>
10647 \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.

```

10648 \begingroup
10649 \obeylines %
10650 \gdef\Hy@ps@CR{\noexpand
10651 }%
10652 \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`.

```

10653 \def\literalps@out#1{%
10654   \special{postscript 0 0 transform}%
10655   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
10656 }%
10657 %

```

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.

```

10658 \def\headerps@out#1{%
10659   \special{%
10660     prepostscript TeXdict begin\Hy@ps@CR
10661     #1\Hy@ps@CR
10662     end%

```

```

10663 }%
10664 }%
10665 %

```

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.

```

10666 \g@addto@macro\Hy@FirstPageHook{%
10667   \headerps@out{%
10668     /betterpdfmark {%
10669       systemdict begin %
10670         dup /BP eq%
10671         {cleartomark gsave nulldevice []}%
10672         {dup /EP eq%
10673           {cleartomark cleartomark grestore}%
10674           {cleartomark}%
10675         ifelse%
10676       }ifelse %
10677     end%
10678   }def\Hy@ps@CR
10679   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
10680 }% end of \headerps@out
10681 }% end of \AtBeginShipoutFirst
10682 %
10683 \input{pdfmark.def}%
10684 %
10685 \ifx\@pdfproducer\relax
10686   \def\@pdfproducer{Textures + Distiller}%
10687 \fi
10688 \providecommand*\@pdfborder{0 0 1}
10689 \providecommand*\@pdfborderstyle{}
10690 \providecommand*\@pdfview{XYZ}
10691 \providecommand*\@pdfviewparams{ H.V}
10692 %

```

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  $\TeX$ .

```

10693 \Hy@AtBeginDocument{%
10694   \headerps@out{%

```

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

```

10695   /vsize {\Hy@pageheight} def%
10696   /DvipsToPDF {} def%
10697   /PDFToDvips {} def%
10698   /BPTToDvips {} def%
10699   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
10700   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
10701   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
10702   /H.S {%
10703     currentpoint %
10704     HyperBorder add /pdf@lly exch def %
10705     dup DvipsToPDF 72 add /pdf@hoff exch def %
10706     HyperBorder sub /pdf@llx exch def%
10707   } def\Hy@ps@CR
10708   /H.L {%

```

```

10709      2 sub %
10710      PDFToDvips /HyperBase exch def %
10711      currentpoint %
10712      HyperBase sub /pdf@ury exch def%
10713      /pdf@urx exch def%
10714      } def\Hy@ps@CR
10715      /H.A {%
10716      H.L %
10717      currentpoint exch pop %
10718      vsize 72 sub exch DvipsToPDF %
10719      HyperBase sub % baseline skip
10720      sub /pdf@voff exch def%
10721      } def\Hy@ps@CR
10722      /H.R {%
10723      currentpoint %
10724      HyperBorder sub /pdf@ury exch def %
10725      HyperBorder add /pdf@urx exch def %
10726      currentpoint exch pop vsize 72 sub %
10727      exch DvipsToPDF sub /pdf@voff exch def%
10728      } def\Hy@ps@CR
10729      }%
10730      }

10731 \Hy@AtBeginDocument{%
10732   \ifHy@colorlinks
10733     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
10734   \fi
10735 }

```

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

```

10736 \expandafter\let\expandafter\keepPDF@SetupDoc
10737 \csname PDF@SetupDoc\endcsname
10738 \def\PDF@SetupDoc{%
10739   \ifx\@baseurl\@empty
10740     \else
10741       \special{html:<base href="\@baseurl">}%
10742     \fi
10743   \keepPDF@SetupDoc
10744 }

10745 \def\hyper@anchor#1{%
10746   \Hy@SaveLastskip
10747   \Hy@VerboseAnchor{#1}%
10748   \begingroup
10749     \let\protect=\string
10750     \special{html:<a name=%
10751       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10752   \endgroup
10753   \Hy@activeanchortrue
10754   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10755   \special{html:</a>}%
10756   \Hy@activeanchorfalse
10757   \Hy@RestoreLastskip
10758 }

10759 \def\hyper@anchorstart#1{%
10760   \Hy@SaveLastskip
10761   \Hy@VerboseAnchor{#1}%
10762   \begingroup

```

```

10763 \hyper@chars
10764 \special{html:<a name=%
10765 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10766 \endgroup
10767 \Hy@activeanchortrue
10768 }
10769 \def\hyper@anchorend{%
10770 \special{html:</a>}%
10771 \Hy@activeanchorfalse
10772 \Hy@RestoreLastskip
10773 }
10774 \def\@urlltype{url}
10775 \def\hyper@linkstart#1#2{%
10776 \Hy@VerboseLinkStart{#1}{#2}%
10777 \expandafter\Hy@colorlink\csname @#1color\endcsname
10778 \def\Hy@tempa{#1}%
10779 \ifx\Hy@tempa\@urlltype
10780 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10781 \else
10782 \begingroup
10783 \hyper@chars
10784 \special{%
10785 html:<a href=%
10786 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
10787 }%
10788 \endgroup
10789 \fi
10790 }
10791 \def\hyper@linkend{%
10792 \special{html:</a>}%
10793 \Hy@endcolorlink
10794 }
10795 \def\hyper@linkfile#1#2#3{%
10796 \hyper@linkurl{#1}{%
10797 \Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi
10798 }%
10799 }
10800 \def\hyper@linkurl#1#2{%
10801 \leavevmode
10802 \ifHy@raiselinks
10803 \setbox\@tempboxa=\color@hbox #1\color@endbox
10804 \@linkdim\dp\@tempboxa
10805 \lower\@linkdim\hbox{%
10806 \hyper@chars
10807 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10808 }%
10809 \Hy@colorlink\@urlcolor#1%
10810 \@linkdim\ht\@tempboxa
10811 \advance\@linkdim by -6.5\p@
10812 \raise\@linkdim\hbox{\special{html:</a>}}%
10813 \Hy@endcolorlink
10814 \else
10815 \begingroup
10816 \hyper@chars
10817 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10818 \Hy@colorlink\@urlcolor#1%
10819 \special{html:</a>}%

```

```

10820 \Hy@endcolorlink
10821 \endgroup
10822 \fi
10823 }

```

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

```

10824 \def\hyper@link#1#2#3{%
10825 \Hy@VerboseLinkStart{#1}{#2}%
10826 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
10827 }
10828 \def\hyper@image#1#2{%
10829 \begingroup
10830 \hyper@chars
10831 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
10832 \endgroup
10833 }
10834 </textures>

```

## 46.12 dvipsone

```

10835 % \subsection{dvipsone driver}
10836 % Over-ride the default setup macro in pdfmark driver to use Y&Y
10837 % |\special| commands.
10838 (*dvipsone)
10839 \providecommand*{\XR@ext}{pdf}
10840 \def\Hy@raisedlink{}
10841 \providecommand*\@pdfborder{0 0 1}
10842 \providecommand*\@pdfborderstyle{}
10843 \def\literalps@out#1{\special{ps:#1}}%
10844 \def\headerps@out#1{\special{headertext=#1}}%
10845 \input{pdfmark.def}%
10846 \ifx\@pdfproducer\relax
10847 \def\@pdfproducer{dvipsone + Distiller}%
10848 \fi
10849 \HyInfo@AddonUnsupportedtrue
10850 \def\PDF@FinishDoc{%
10851 \Hy@UseMaketitleInfos
10852 \HyInfo@TrappedUnsupported
10853 \special{PDF: Keywords \@pdfkeywords}%
10854 \special{PDF: Title \@pdftitle}%
10855 \special{PDF: Creator \@pdfcreator}%
10856 \ifx\@pdfcreationdate\@empty
10857 \else
10858 \special{PDF: CreationDate \@pdfcreationdate}%
10859 \fi
10860 \ifx\@pdfmoddate\@empty
10861 \else
10862 \special{PDF: ModDate \@pdfmoddate}%
10863 \fi
10864 \special{PDF: Author \@pdfauthor}%
10865 \ifx\@pdfproducer\relax
10866 \else
10867 \special{PDF: Producer \@pdfproducer}%
10868 \fi
10869 \special{PDF: Subject \@pdfsubject}%
10870 \Hy@DisableOption{pdfauthor}%
10871 \Hy@DisableOption{pdftitle}%
10872 \Hy@DisableOption{pdfsubject}%

```

```

10873 \Hy@DisableOption{pdfcreator}%
10874 \Hy@DisableOption{pdfcreationdate}%
10875 \Hy@DisableOption{pdfmoddate}%
10876 \Hy@DisableOption{pdfproducer}%
10877 \Hy@DisableOption{pdfkeywords}%
10878 \Hy@DisableOption{pdftrapped}%
10879 \Hy@DisableOption{pdfinfo}%
10880 }
10881 \def\PDF@SetupDoc{%
10882 \def\Hy@temp{%
10883 \ifx\@pdfstartpage\@empty
10884 \else
10885 \ifx\@pdfstartview\@empty
10886 \else
10887 \edef\Hy@temp{%
10888 ,Page=\@pdfstartpage
10889 ,View=\@pdfstartview
10890 }%
10891 \fi
10892 \fi
10893 \edef\Hy@temp{%
10894 \noexpand\pdfmark{%
10895 pdfmark=/DOCVIEW,%
10896 PageMode=/\@pdfpagemode
10897 \Hy@temp
10898 }%
10899 }%
10900 \Hy@temp
10901 \ifx\@pdfpagescrop\@empty
10902 \else
10903 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10904 \fi
10905 \edef\Hy@temp{%
10906 \ifHy@toolbar\else /HideToolbar true\fi
10907 \ifHy@menubar\else /HideMenubar true\fi
10908 \ifHy@windowui\else /HideWindowUI true\fi
10909 \ifHy@fitwindow /FitWindow true\fi
10910 \ifHy@centerwindow /CenterWindow true\fi
10911 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10912 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10913 \Hy@UseNameKey{Direction}\@pdfdirection
10914 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10915 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10916 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10917 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10918 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10919 \Hy@UseNameKey{Duplex}\@pdfduplex
10920 \ifx\@pdfpicktraybypdfsize\@empty
10921 \else
10922 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10923 \fi
10924 \ifx\@pdfprintpagerange\@empty
10925 \else
10926 /PrintPageRange[\@pdfprintpagerange]%
10927 \fi
10928 \ifx\@pdfnumcopies\@empty
10929 \else

```



```

10930 /NumCopies \@pdfnumcopies
10931 \fi
10932 }%
10933 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10934 \pdfmark{%
10935 pdfmark=/PUT,%
10936 Raw={%
10937 \string{Catalog\string}<<%
10938 \ifx\Hy@temp\@empty
10939 \else
10940 /ViewerPreferences<<\Hy@temp>>%
10941 \fi
10942 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10943 \ifx\@pdflang\@empty
10944 \else
10945 /Lang(\@pdflang)%
10946 \fi
10947 \ifx\@baseurl\@empty
10948 \else
10949 /URI<</Base(\Hy@pstringB)>>%
10950 \fi
10951 >>%
10952 }%
10953 }%
10954 }
10955 \providecommand*\@pdfview{XYZ}
10956 \providecommand*\@pdfviewparams{ %
10957 gsave revscl currentpoint grestore %
10958 72 add exch pop null exch null%
10959 }
10960 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to T<sub>E</sub>X.

```

10961 \g@addto@macro\Hy@FirstPageHook{%
10962 \headerps@out{%

```

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

```

10963 /DvipsToPDF { 65781 div } def%
10964 /PDFToDvips { 65781 mul } def%
10965 /BPToDvips{65781 mul}def%
10966 /HyperBorder { 1 PDFToDvips } def%
10967 /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.

```

10968 /BorderArrayPatch{%
10969 [exch{%
10970 dup dup type/integertype eq exch type/realtype eq or%
10971 {BPToDvips}if%
10972 }forall]%
10973 }def%
10974 /H.S {%
10975 currentpoint %
10976 HyperBorder add /pdf@lly exch def %

```

```

10977     dup DvipsToPDF 72 add /pdf@hoff exch def %
10978     HyperBorder sub /pdf@llx exch def%
10979 } def%
10980 /H.L {%
10981     2 sub %
10982     PDFToDvips /HyperBase exch def %
10983     currentpoint %
10984     HyperBase sub /pdf@ury exch def%
10985     /pdf@urx exch def%
10986 } def%
10987 /H.A {%
10988     H.L %
10989     currentpoint exch pop %
10990     HyperBase sub % baseline skip
10991     DvipsToPDF /pdf@voff exch def%
10992 } def%
10993 /H.R {%
10994     currentpoint %
10995     HyperBorder sub /pdf@ury exch def %
10996     HyperBorder add /pdf@urx exch def %
10997     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
10998 } def%
10999 }%
11000 }
11001 </dvipsone>

```

## 46.13 TeX4ht

```

11002 <*tex4ht>
11003 \providecommand*{\XR@ext}{html}
11004 \def\Hy@raisedlink{}
11005 \ifpackageloaded{tex4ht}{%
11006     \typeout{hyperref tex4ht: tex4ht already loaded}%
11007 }{%
11008     \RequirePackage[hTeX]{tex4ht}%
11009 }
11010 \hyperlinkfileprefix{}
11011 \def\PDF@FinishDoc{}
11012 \def\PDF@SetupDoc{}
11013 \ifx\@baseurl\@empty
11014     \else
11015         \special{t4ht=<base href="\@baseurl">}%
11016     \fi
11017 }
11018 \def\hyper@anchor#1{%
11019     \Hy@SaveLastskip
11020     \Hy@VerboseAnchor{#1}%
11021     \begingroup
11022         \let\protect=\string
11023         \special{t4ht=<a name=%
11024             \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11025     \endgroup
11026     \Hy@Activeanchortrue
11027     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11028     \special{t4ht=</a>}%
11029     \Hy@Activeanchorfalse
11030     \Hy@RestoreLastskip
11031 }

```

```

11032 \def\hyper@anchorstart#1{%
11033   \Hy@SaveLastskip
11034   \Hy@VerboseAnchor{#1}%
11035   \begingroup
11036     \hyper@chars\special{t4ht=<a name=%
11037       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
11038   \endgroup
11039   \Hy@activeanchortrue
11040 }
11041 \def\hyper@anchorend{%
11042   \special{t4ht=</a>}}%
11043   \Hy@activeanchorfalse
11044   \Hy@RestoreLastskip
11045 }
11046 \def\@urltype{url}
11047 \def\hyper@linkstart#1#2{%
11048   \Hy@VerboseLinkStart{#1}{#2}%
11049   \expandafter\Hy@colorlink\csname @#1color\endcsname
11050   \def\Hy@tempa{#1}%
11051   \ifx\Hy@tempa\@urltype
11052     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
11053   \else
11054     \begingroup
11055       \hyper@chars
11056       \special{t4ht=<a href=%
11057         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
11058     \endgroup
11059   \fi
11060 }
11061 \def\hyper@linkend{%
11062   \special{t4ht=</a>}}%
11063   \Hy@endcolorlink
11064 }
11065 \def\hyper@linkfile#1#2#3{%
11066   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
11067 }
11068 \def\hyper@linkurl#1#2{%
11069   \leavevmode
11070   \ifHy@raiselinks
11071     \setbox\@tempboxa=\color@hbox #1\color@endbox
11072     \@linkdim\dp\@tempboxa
11073     \lower\@linkdim\hbox{%
11074       \begingroup
11075         \hyper@chars
11076         \special{%
11077           t4ht=<a href=\hyper@quote#2\hyper@quote>%
11078         }%
11079       \endgroup
11080     }%
11081     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
11082     \@linkdim\ht\@tempboxa
11083     \advance\@linkdim by -6.5\p@
11084     \raise\@linkdim\hbox{\special{t4ht=</a>}}}%
11085   \else
11086     \begingroup
11087       \hyper@chars
11088       \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%

```

```

11089 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
11090 \special{t4ht=</a>}%
11091 \endgroup
11092 \fi
11093 }

```

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

```

11094 \def\hyper@link#1#2#3{%
11095 \Hy@VerboseLinkStart{#1}{#2}%
11096 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
11097 }
11098 \def\hyper@image#1#2{%
11099 \begingroup
11100 \hyper@chars
11101 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
11102 \endgroup
11103 }
11104 \let\autoref\ref
11105 \ifx \rEfLiNK \UnDef
11106 \def\rEfLiNK #1#2{#2}%
11107 \fi
11108 \def\backref#1{}
11109 </tex4ht>
11110 <*tex4htcfg>
11111 \IfFileExists{\jobname.cfg}{\endinput}{}
11112 \Preamble{html}
11113 \begin{document}%
11114 \EndPreamble
11115 \def\TeX{TeX}
11116 \def\OMEGA{Omega}
11117 \def\LaTeX{LaTeX}
11118 \def\LaTeXe{LaTeX2e}
11119 \def\TeX{e-TeX}
11120 \def\MF{Metafont}
11121 \def\MP{MetaPost}
11122 </tex4htcfg>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

11123 <*pdfmark>
11124 \long\def\@Form[#1]{%
11125 \g@addto@macro\Hy@FirstPageHook{%
11126 \headerps@out{%
11127 [%
11128 /_objdef{pdfDocEncoding}%
11129 /type/dict%
11130 /OBJ pdfmark%
11131 [%
11132 {pdfDocEncoding}%
11133 <<%
11134 /Type/Encoding%
11135 /Differences[%
11136 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
11137 /tilde %
11138 39/quotesingle %
11139 96/grave %

```

11140 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%  
11141 /fraction/guilsinglleft/guilsinglright/minus/perthousand%  
11142 /quotedblbase/quotedblleft/quotedblright/quoteleft%  
11143 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%  
11144 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %  
11145 164/currency %  
11146 166/brokenbar %  
11147 168/dieresis/copyright/ordfeminine %  
11148 172/logicalnot/.notdef/registered/macron/degree/plusminus%  
11149 /twosuperior/threesuperior/acute/mu %  
11150 183/periodcentered/cedilla/onesuperior/ordmasculine %  
11151 188/onequarter/onehalf/threequarters %  
11152 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%  
11153 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%  
11154 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%  
11155 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%  
11156 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%  
11157 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%  
11158 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%  
11159 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%  
11160 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%  
11161 /ucircumflex/udieresis/yacute/thorn/ydieresis%  
11162 ]%  
11163 >>%  
11164 /PUT pdfmark%  
11165 [%  
11166 /\_\_objdef{ZaDb}%  
11167 /type/dict%  
11168 /OBJ pdfmark%  
11169 [%  
11170 {ZaDb}%  
11171 <<%  
11172 /Type/Font%  
11173 /Subtype/Type1%  
11174 /Name/ZaDb%  
11175 /BaseFont/ZapfDingbats%  
11176 >>%  
11177 /PUT pdfmark%  
11178 [%  
11179 /\_\_objdef{Helv}%  
11180 /type/dict%  
11181 /OBJ pdfmark%  
11182 [%  
11183 {Helv}%  
11184 <<%  
11185 /Type/Font%  
11186 /Subtype/Type1%  
11187 /Name/Helv%  
11188 /BaseFont/Helvetica%  
11189 /Encoding{pdfDocEncoding}%  
11190 >>%  
11191 /PUT pdfmark%  
11192 [%  
11193 /\_\_objdef{aform}%  
11194 /type/dict%  
11195 /OBJ pdfmark%  
11196 [%

```

11197 /__objdef{afields}%
11198 /type/array%
11199 /OBJ pdfmark%
11200 {%
11201 [%
11202 /BBox[0 0 100 100]%
11203 /__objdef{Check}%
11204 /BP pdfmark %
11205 1 0 0 setrgbcolor%
11206 /ZapfDingbats 80 selectfont %
11207 20 20 moveto%
11208 (4)show%
11209 [/EP pdfmark%
11210 [%
11211 /BBox[0 0 100 100]%
11212 /__objdef{Cross}%
11213 /BP pdfmark %
11214 1 0 0 setrgbcolor%
11215 /ZapfDingbats 80 selectfont %
11216 20 20 moveto%
11217 (8)show%
11218 [/EP pdfmark%
11219 [%
11220 /BBox[0 0 250 100]%
11221 /__objdef{Submit}%
11222 /BP pdfmark %
11223 0.6 setgray %
11224 0 0 250 100 rectfill %
11225 1 setgray %
11226 2 2 moveto %
11227 2 98 lineto %
11228 248 98 lineto %
11229 246 96 lineto %
11230 4 96 lineto %
11231 4 4 lineto %
11232 fill %
11233 0.34 setgray %
11234 248 98 moveto %
11235 248 2 lineto %
11236 2 2 lineto %
11237 4 4 lineto %
11238 246 4 lineto %
11239 246 96 lineto %
11240 fill%
11241 /Helvetica 76 selectfont %
11242 0 setgray %
11243 8 22.5 moveto%
11244 (Submit)show%
11245 [/EP pdfmark%
11246 [%
11247 /BBox[0 0 250 100]%
11248 /__objdef{SubmitP}%
11249 /BP pdfmark %
11250 0.6 setgray %
11251 0 0 250 100 rectfill %
11252 0.34 setgray %
11253 2 2 moveto %

```

```

11254 2 98 lineto %
11255 248 98 lineto %
11256 246 96 lineto %
11257 4 96 lineto %
11258 4 4 lineto %
11259 fill %
11260 1 setgray %
11261 248 98 moveto %
11262 248 2 lineto %
11263 2 2 lineto %
11264 4 4 lineto %
11265 246 4 lineto %
11266 246 96 lineto %
11267 fill%
11268 /Helvetica 76 selectfont %
11269 0 setgray %
11270 10 20.5 moveto%
11271 (Submit)show%
11272 [/EP pdfmark%
11273 } ?pdfmark%
11274 [%
11275 {aform}%
11276 <<%
11277 /Fields{afields}%
11278 /DR<<%
11279 /Font<<%
11280 /ZaDb{ZaDb}%
11281 /Helv{Helv}%
11282 >>%
11283 >>%
11284 /DA(/Helv 10 Tf 0 g)%
11285 /CO{corder}%
11286 \ifHy@pdfa
11287 \else
11288 /NeedAppearances true%
11289 \fi
11290 >>%
11291 /PUT pdfmark%
11292 [%
11293 {Catalog}%
11294 <<%
11295 /AcroForm{aform}%
11296 >>%
11297 /PUT pdfmark%
11298 [%
11299 /__objdef{corder}%
11300 /type/array%
11301 /OBJ pdfmark% dps
11302 }}%
11303 \setkeys{Form}{#1}%
11304 }
11305 \def\@endForm{}
11306 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11307 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
11308 }
11309 \def\@TextField[#1]#2{% parameters, label
11310 \def\Fld@name{#2}%

```

```

11311 \def\Fld@default{ }%
11312 \let\Fld@value\@empty
11313 \def\Fld@width{\DefaultWidthofText}%
11314 \def\Fld@height{%
11315   \ifFld@multiline
11316     \DefaultHeightofTextMultiline
11317   \else
11318     \DefaultHeightofText
11319   \fi
11320 }%
11321 \begingroup
11322   \Field@toks={ }%
11323   \expandafter\HyField@SetKeys\expandafter{%
11324     \DefaultOptionsofText,#1%
11325   }%
11326   \HyField@FlagsText
11327   \ifFld@hidden\def\Fld@width{1sp}\fi
11328   \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11329   \LayoutTextField{#2}{%
11330     \Hy@escapeform\PDFForm@Text
11331     \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
11332       pdfmark=/ANN,Raw={\PDFForm@Text}%
11333     }%
11334   }%
11335 \endgroup
11336 }
11337 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11338   \def\Fld@name{#2}%
11339   \let\Fld@default\relax
11340   \let\Fld@value\relax
11341   \def\Fld@width{\DefaultWidthofChoiceMenu}%
11342   \def\Fld@height{\DefaultHeightofChoiceMenu}%
11343   \begingroup
11344     \Fld@menulength=0 %
11345     \@tempdima\z@
11346     \@for\@curropt=#3\do{%
11347       \expandafter\Fld@chekequals\@curropt==\%
11348       \Hy@StepCount\Fld@menulength
11349       \settowidth{\@tempdimb}{\@currDisplay}%
11350       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11351     }%
11352     \advance\@tempdima by 15\p@
11353     \Field@toks={ }%
11354     \begingroup
11355       \HyField@SetKeys{#1}%
11356     \edef\x{\endgroup
11357       \noexpand\expandafter
11358       \noexpand\HyField@SetKeys
11359       \noexpand\expandafter{%
11360         \expandafter\noexpand\csname DefaultOptionsof%
11361           \ifFld@radio
11362             Radio%
11363           \else
11364             \ifFld@combo
11365               \ifFld@popdown
11366                 PopdownBox%
11367               \else

```



```

11368         ComboBox%
11369     \fi
11370 \else
11371     ListBox%
11372 \fi
11373 \fi
11374 \endcsname
11375 }%
11376 } \x
11377 \HyField@SetKeys{#1}%
11378 \ifFld@hidden\def\Fld@width{1sp}\fi
11379 \ifx\Fld@value\relax
11380     \let\Fld@value\Fld@default
11381 \fi
11382 \LayoutChoiceField{#2}{%
11383     \ifFld@radio
11384         \HyField@FlagsRadioButton
11385         \@@Radio{#3}%
11386     \else
11387         \begingroup
11388             \HyField@FlagsChoice
11389             \ifdim\Fld@width<\@tempdima
11390                 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11391                 \edef\Fld@width{\the\@tempdima}%
11392             \fi
11393             \ifFld@combo
11394             \else
11395                 \@tempdima=\the\Fld@menulength\Fld@charsize
11396                 \advance\@tempdima by \Fld@borderwidth bp %
11397                 \advance\@tempdima by \Fld@borderwidth bp %
11398                 \edef\Fld@height{\the\@tempdima}%
11399             \fi
11400             \@@ListBox{#3}%
11401         \endgroup
11402     \fi
11403 }%
11404 \endgroup
11405 }
11406 \def\@@Radio#1{%
11407     \Fld@listcount=0 %
11408     \@for\@curropt:=#1\do{%
11409         \expandafter\Fld@checkequals\@curropt==\%
11410         \Hy@StepCount\Fld@listcount
11411         \@currDisplay\space
11412         \Hy@escapeform\PDFForm@Radio
11413         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
11414             pdfmark=/ANN,%
11415             Raw={%
11416                 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
11417             }%
11418         } % deliberate space between radio buttons
11419     }%
11420 }
11421 \newcount\Fld@listcount
11422 \def\@@ListBox#1{%
11423     \HyField@PDFChoices{#1}%
11424     \Hy@escapeform\PDFForm@List

```

```

11425 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
11426   pdfmark=/ANN,Raw={\PDFForm@List}%
11427 }%
11428 }
11429 \def\@PushButton[#1]#2{% parameters, label
11430   \def\Fld@name{#2}%
11431   \begingroup
11432     \Field@toks={ }%
11433     \expandafter\HyField@SetKeys\expandafter{%
11434       \DefaultOptionsofPushButton,#1%
11435     }%
11436     \ifHy@pdfa
11437       \PackageError{hyperref}{%
11438         PDF/A: Push button with JavaScript is prohibited%
11439       }\@ehc
11440       \LayoutPushButtonField{%
11441         \leavevmode
11442         \MakeButtonField{#2}%
11443       }%
11444     \else
11445       \HyField@FlagsPushButton
11446       \ifFld@hidden\def\Fld@width{1sp}\fi
11447       \LayoutPushButtonField{%
11448         \leavevmode
11449         \Hy@escapeform\PDFForm@Push
11450         \pdfmark[\MakeButtonField{#2}]{%
11451           pdfmark=/ANN,Raw={\PDFForm@Push}%
11452         }%
11453       }%
11454     \fi
11455   \endgroup
11456 }
11457 \def\@Submit[#1]#2{%
11458   \Field@toks={ }%
11459   \def\Fld@width{\DefaultWidthofSubmit}%
11460   \def\Fld@height{\DefaultHeightofSubmit}%
11461   \begingroup
11462     \expandafter\HyField@SetKeys\expandafter{%
11463       \DefaultOptionsofSubmit,#1%
11464     }%
11465     \HyField@FlagsPushButton
11466     \HyField@FlagsSubmit
11467     \ifFld@hidden\def\Fld@width{1sp}\fi
11468     \Hy@escapeform\PDFForm@Submit
11469     \pdfmark[\MakeButtonField{#2}]{%
11470       pdfmark=/ANN,%
11471       Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
11472     }%
11473   \endgroup
11474 }
11475 \def\@Reset[#1]#2{%
11476   \Field@toks={ }%
11477   \def\Fld@width{\DefaultWidthofReset}%
11478   \def\Fld@height{\DefaultHeightofReset}%
11479   \begingroup
11480     \expandafter\HyField@SetKeys\expandafter{%
11481       \DefaultOptionsofReset,#1%

```

```

11482 }%
11483 \leavevmode
11484 \ifHy@pdfa
11485   \PackageError{hyperref}{%
11486     PDF/A: Reset action is prohibited%
11487   }\@ehc
11488   \MakeButtonField{#2}%
11489 \else
11490   \HyField@FlagsPushButton
11491   \ifFld@hidden\def\Fld@width{1sp}\fi
11492   \Hy@escapeform\PDFForm@Reset
11493   \pdfmark[\MakeButtonField{#2}]{%
11494     pdfmark=/ANN,Raw={\PDFForm@Reset}%
11495   }%
11496   \fi
11497 \endgroup
11498 }%
11499 \def\@CheckBox[#1]#2{% parameters, label
11500   \def\Fld@name{#2}%
11501   \def\Fld@default{0}%
11502   \begingroup
11503     \def\Fld@width{\DefaultWidthofCheckBox}%
11504     \def\Fld@height{\DefaultHeightofCheckBox}%
11505     \Field@toks={ }%
11506     \expandafter\HyField@SetKeys\expandafter{%
11507       \DefaultOptionsofCheckBox,#1%
11508     }%
11509     \HyField@FlagsCheckBox
11510     \ifFld@hidden\def\Fld@width{1sp}\fi
11511     \LayoutCheckField{#2}{%
11512       \Hy@escapeform\PDFForm@Check
11513       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
11514         pdfmark=/ANN,Raw={\PDFForm@Check}%
11515       }%
11516     }%
11517   \endgroup
11518 }
11519 \</pdfmark>

```

## 47.2 HyperTeX

```

11520 \<*hypertex>
11521 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
11522 \def\@endForm{}
11523 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11524   \typeout{Sorry, HyperTeX does not support FORM gauges}%
11525 }
11526 \def\@TextField[#1]#2{% parameters, label
11527   \typeout{Sorry, HyperTeX does not support FORM text fields}%
11528 }
11529 \def\@CheckBox[#1]#2{% parameters, label
11530   \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
11531 }
11532 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11533   \typeout{Sorry, HyperTeX does not support FORM choice menus}%
11534 }
11535 \def\@PushButton[#1]#2{% parameters, label
11536   \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%

```

```

11537 }
11538 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11539 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11540 \</hypertex>

```

### 47.3 TeX4ht

```

11541 \< *tex4ht>
11542 \def\@Form[#1]{%
11543   \setkeys{Form}{#1}%
11544   \HCode{<form action="\Form@action" method="\Form@method">}%
11545 }
11546 \def\@endForm{\HCode{</form>}}
11547 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11548   \typeout{Sorry, TeX4ht does not support gauges}%
11549 }
11550 \def\@TextField[#1]#2{% parameters, label
11551   \let\Hy@reserved@a\@empty
11552   \def\Fld@name{#2}%
11553   \def\Fld@default{}%
11554   \bgroup
11555     \Field@toks={ }%
11556     \setkeys{Field}{#1}%
11557     \HCode{<label for="\Fld@name">#2</label>}%
11558     \ifFld@password
11559       \@@PasswordField
11560     \else
11561       \@@TextField
11562     \fi
11563   \egroup
11564 }
11565 \def\@@PasswordField{%
11566   \HCode{%
11567     <input type="password" %
11568       id="\Fld@name" %
11569       name="\Fld@name" %
11570       \ifFld@hidden type="hidden" \fi
11571       value="\Fld@default" %
11572       \the\Field@toks
11573     >%
11574   }%
11575 }
11576 \def\@@TextField{%
11577   \ifFld@multiline
11578     \HCode{<textarea %
11579       \ifFld@readonly readonly \fi
11580       id="\Fld@name" %
11581       name="\Fld@name" %
11582       \ifFld@hidden type="hidden" \fi
11583       \the\Field@toks>%
11584   }%
11585     \Fld@default
11586     \HCode{</textarea>}%
11587   \else
11588     \HCode{<input type="text" %
11589       \ifFld@readonly readonly \fi
11590       id="\Fld@name" %
11591       name="\Fld@name" %

```

```

11592 \ifFld@hidden type="hidden" \fi
11593 value="\Fld@default" %
11594 \the\Field@toks>%
11595 }%
11596 \fi
11597 }
11598 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11599 \def\Fld@name{#2}%
11600 \def\Fld@default{}%
11601 \let\Hy@reserved@a\relax
11602 \begingroup
11603 \expandafter\Fld@findlength#3\\%
11604 \Field@toks={ }%
11605 \setkeys{Field}{#1}%
11606 #2%
11607 \ifFld@radio
11608 \expandafter\@@Radio#3\\%
11609 \else
11610 \expandafter\@@Menu#3\\%
11611 \fi
11612 \endgroup
11613 }
11614 \def\Fld@findlength#1\\{%
11615 \Fld@menulength=0 %
11616 \for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
11617 }
11618 \def\@@Menu#1\\{%
11619 \HCode{<select size="\the\Fld@menulength" %
11620 name="\Fld@name" %
11621 \the\Field@toks>%
11622 }%
11623 \@for\@curropt:=#1\do{%
11624 \expandafter\Fld@checkequals\@curropt==\\%
11625 \HCode{<option %
11626 \ifx\@curropt\Fld@default selected \fi
11627 value="\@currValue">\@currDisplay</option>%
11628 }%
11629 }%
11630 \HCode{</select>}}%
11631 }
11632 \def\@@Radio#1\\{%
11633 \@for\@curropt:=#1\do{%
11634 \expandafter\Fld@checkequals\@curropt==\\%
11635 \HCode{<input type="radio" %
11636 \ifx\@curropt\Fld@default checked \fi
11637 name="\Fld@name" %
11638 value="\@currValue" %
11639 \the\Field@toks>%
11640 }%
11641 \@currDisplay
11642 }%
11643 }
11644 \def\@PushButton[#1]#2{% parameters, label
11645 \def\Fld@name{#2}%
11646 \bgroup
11647 \Field@toks={ }%
11648 \setkeys{Field}{#1}%

```

```

11649 \HCode{<input type="button" %
11650   name="\Fld@name" %
11651   value="#2" %
11652   \the\Fld@toks>%
11653 }%
11654 \HCode{</button>}%
11655 \egroup
11656 }
11657 \def\@Submit[#1]#2{%
11658 \HCode{<button type="submit">#2</button>}%
11659 }
11660 \def\@Reset[#1]#2{%
11661 \HCode{<button type="reset">#2</button>}%
11662 }
11663 \def\@CheckBox[#1]#2{% parameters, label
11664 \let\Hy@reserved@a\@empty
11665 \def\Fld@name{#2}%
11666 \def\Fld@default{0}%
11667 \bgroup
11668 \Field@toks={ }%
11669 \setkeys{Field}{#1}%
11670 \HCode{<input type="checkbox" %
11671   \ifFld@checked checked \fi
11672   \ifFld@disabled disabled \fi
11673   \ifFld@readonly readonly \fi
11674   name="\Fld@name" %
11675   \ifFld@hidden type="hidden" \fi
11676   value="\Fld@default" %
11677   \the\Fld@toks>%
11678   #2%
11679 }%
11680 \egroup
11681 }
11682 </tex4ht>

```

## 47.4 pdfTeX

```

11683 <*pdfTeX>
11684 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11685 \typeout{Sorry, pdfTeX does not support FORM gauges}%
11686 }
11687 \def\MakeFieldObject#1#2{\sbox0{#1}%
11688 \immediate\pdfxform0 %
11689 \expandafter\edef\csname #2Object\endcsname{%
11690   \the\pdflastxform\space 0 R%
11691 }%
11692 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
11693 }%
11694 \def\HyField@afields{}
11695 \begingroup\expandafter\expandafter\expandafter\endgroup
11696 \expandafter\ifx\csname pdfastlink\endcsname\relax
11697 \let\HyField@AddToFields\relax
11698 \PackageInfo{hyperref}{%
11699   You need pdfTeX 1.40.0 for setting the /Fields entry.%
11700   \MessageBreak
11701   Adobe Reader/Acrobat accepts an empty /Field array,%
11702   \MessageBreak
11703   but other PDF viewers might complain%

```

```

11704 }%
11705 \else
11706 \def\HyField@AuxAddToFields#1{%
11707 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
11708 \Hy@AtBeginDocument{%
11709 \if@filesw
11710 \immediate\write\@mainaux{%
11711 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
11712 }%
11713 \fi
11714 \let\HyField@AfterAuxOpen\@firstofone
11715 \def\HyField@AuxAddToFields#1{%
11716 \xdef\HyField@afields{%
11717 \ifx\HyField@afields\@empty
11718 \else
11719 \HyField@afields
11720 \space
11721 \fi
11722 #1 0 R%
11723 }%
11724 }%
11725 }%
11726 \def\HyField@AddToFields{%
11727 \expandafter\HyField@@AddToFields\expandafter{%
11728 \the\pdfastlink
11729 }%
11730 }%
11731 \def\HyField@@AddToFields#1{%
11732 \HyField@AfterAuxOpen{%
11733 \if@filesw
11734 \write\@mainaux{%
11735 \string\HyField@AuxAddToFields{#1}%
11736 }%
11737 \fi
11738 }%
11739 }%
11740 \fi
11741 \def\@Form[#1]{%
11742 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
11743 \setkeys{Form}{#1}%
11744 \Hy@FormObjects
11745 \ifnum\pdfTeXversion>13 %
11746 \pdfrefobj\OBJ@pdfdocencoding
11747 \pdfrefobj\OBJ@ZaDb
11748 \pdfrefobj\OBJ@Helv
11749 \fi
11750 \AtVeryEndDocument{%
11751 \immediate\pdfobj{%
11752 <<%
11753 /Fields[\HyField@afields]%
11754 /DR<<%
11755 /Font<<%
11756 /ZaDb \OBJ@ZaDb\space 0 R%
11757 /Helv \OBJ@Helv\space 0 R%
11758 >>%
11759 >>%
11760 /DA(/Helv 10 Tf 0 g)%

```

```

11761     \ifHy@pdfa
11762     \else
11763         /NeedAppearances true%
11764     \fi
11765     >>%
11766 }%
11767 \edef\OBJ@acroform{\the\pdfastobj}%
11768 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
11769 }%
11770 \MakeFieldObject{%

Same as \ding{123} of package pifont.
11771 \begingroup
11772 \fontfamily{pzd}%
11773 \fontencoding{U}%
11774 \fontseries{m}%
11775 \fontshape{n}%
11776 \selectfont
11777 \char123 %
11778 \endgroup
11779 }{Ding}%
11780 \MakeFieldObject{%
11781 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
11782 }{Submit}%
11783 \MakeFieldObject{%
11784 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
11785 }{SubmitP}%
11786 }
11787 \def\@endForm{}
11788 \def\@TextField[#1]#2{% parameters, label
11789 \def\Fld@name{#2}%
11790 \def\Fld@default{}%
11791 \let\Fld@value\@empty
11792 \def\Fld@width{\DefaultWidthofText}%
11793 \def\Fld@height{%
11794 \ifFld@multiline
11795 \DefaultHeightofTextMultiline
11796 \else
11797 \DefaultHeightofText
11798 \fi
11799 }%
11800 \begingroup
11801 \Field@toks={ }%
11802 \expandafter\HyField@SetKeys\expandafter{%
11803 \DefaultOptionsofText,#1%
11804 }%
11805 \PDFForm@Name
11806 \HyField@FlagsText
11807 \ifFld@hidden\def\Fld@width{1sp}\fi
11808 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11809 \LayoutTextField{#2}{%
11810 \Hy@escapeform\PDFForm@Text
11811 \pdfstartlink user {\PDFForm@Text}\relax
11812 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
11813 \HyField@AddToFields
11814 }%
11815 \endgroup
11816 }

```



```

11817 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11818   \def\Fld@name{#2}%
11819   \let\Fld@default\relax
11820   \let\Fld@value\relax
11821   \def\Fld@width{\DefaultWidthofChoiceMenu}%
11822   \def\Fld@height{\DefaultHeightofChoiceMenu}%
11823   \begingroup
11824     \Fld@menulength=0 %
11825     \@tempdima\z@
11826     \@for\@curropt:=#3\do{%
11827       \expandafter\Fld@checkequals\@curropt==\%
11828       \Hy@StepCount\Fld@menulength
11829       \settowidth{\@tempdimb}{\@currDisplay}%
11830       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11831     }%
11832     \advance\@tempdima by 15\p@
11833     \Field@toks={ }%
11834     \begingroup
11835       \HyField@SetKeys{#1}%
11836     \edef\x{\endgroup
11837       \noexpand\expandafter
11838       \noexpand\HyField@SetKeys
11839       \noexpand\expandafter{%
11840         \expandafter\noexpand\csname DefaultOptionsof%
11841           \ifFld@radio
11842             Radio%
11843           \else
11844             \ifFld@combo
11845               \ifFld@popdown
11846                 PopdownBox%
11847               \else
11848                 ComboBox%
11849             \fi
11850           \else
11851             ListBox%
11852           \fi
11853         \fi
11854       \endcsname
11855     }%
11856   }\x
11857   \HyField@SetKeys{#1}%
11858   \PDFForm@Name
11859   \ifFld@hidden\def\Fld@width{1sp}\fi
11860   \ifx\Fld@value\relax
11861     \let\Fld@value\Fld@default
11862   \fi
11863   \LayoutChoiceField{#2}{%
11864     \ifFld@radio
11865       \HyField@FlagsRadioButton
11866       \@@Radio{#3}%
11867     \else
11868       \begingroup
11869       \HyField@FlagsChoice
11870       \ifdim\Fld@width<\@tempdima
11871         \ifdim\@tempdima<1cm\@tempdima1cm\fi
11872       \edef\Fld@width{\the\@tempdima}%
11873     \fi

```

```

11874      \ifFld@combo
11875      \else
11876      \@tempdima=\the\Fld@menulength\Fld@charsize
11877      \advance\@tempdima by \Fld@borderwidth bp %
11878      \advance\@tempdima by \Fld@borderwidth bp %
11879      \edef\Fld@height{\the\@tempdima}%
11880      \fi
11881      \@@ListBox{#3}%
11882      \endgroup
11883      \fi
11884      }%
11885      \endgroup
11886  }
11887  \def\@@Radio#1{%
11888    \Fld@listcount=0 %
11889    \@for\@curropt:=#1\do{%
11890      \expandafter\Fld@checkequals\@curropt==\%
11891      \Hy@StepCount\Fld@listcount
11892      \@currDisplay\space
11893      \leavevmode
11894      \Hy@escapeform\PDFForm@Radio
11895      \pdfstartlink user {%
11896        \PDFForm@Radio
11897        /AP<<%
11898        /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.

```

11899      /\@currValue\space \DingObject
11900      >>%
11901      >>%
11902      }%
11903      \relax
11904      \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
11905      \ifnum\Fld@listcount=1 %
11906        \HyField@AddToFields
11907      \fi
11908      \space % deliberate space between radio buttons
11909      }%
11910  }
11911  \newcount\Fld@listcount
11912  \def\@@ListBox#1{%
11913    \HyField@PDFChoices{#1}%
11914    \leavevmode
11915    \Hy@escapeform\PDFForm@List
11916    \pdfstartlink user {\PDFForm@List}\relax
11917    \MakeChoiceField{\Fld@width}{\Fld@height}%
11918    \pdfendlink
11919    \HyField@AddToFields
11920  }
11921  \def\@PushButton[#1]#2{% parameters, label
11922    \def\Fld@name{#2}%
11923    \begingroup
11924      \Field@toks={ }%
11925      \expandafter\HyField@SetKeys\expandafter{%
11926        \DefaultOptionsofPushButton,#1%
11927      }%

```

```

11928 \PDFForm@Name
11929 \ifHy@pdfa
11930 \PackageError{hyperref}{%
11931     PDF/A: Push button with JavaScript is prohibited%
11932 }{\@ehc
11933 \LayoutPushButtonField{%
11934     \leavevmode
11935     \MakeButtonField{#2}%
11936 }%
11937 \else
11938 \HyField@FlagsPushButton
11939 \ifFld@hidden\def\Fld@width{1sp}\fi
11940 \LayoutPushButtonField{%
11941     \leavevmode
11942     \Hy@escapeform\PDFForm@Push
11943     \pdfstartlink user {\PDFForm@Push}\relax
11944     \MakeButtonField{#2}%
11945     \pdfendlink
11946     \HyField@AddToFields
11947 }%
11948 \fi
11949 \endgroup
11950 }
11951 \def\@Submit[#1]#2{%
11952     \Field@toks={ }%
11953     \def\Fld@width{\DefaultWidthofSubmit}%
11954     \def\Fld@height{\DefaultHeightofSubmit}%
11955     \begingroup
11956     \expandafter\HyField@SetKeys\expandafter{%
11957         \DefaultOptionsofSubmit,#1%
11958     }%
11959     \HyField@FlagsPushButton
11960     \HyField@FlagsSubmit
11961     \ifFld@hidden\def\Fld@width{1sp}\fi
11962     \leavevmode
11963     \Hy@escapeform\PDFForm@Submit
11964     \pdfstartlink user {%
11965         \PDFForm@Submit
11966         /AP<</N \SubmitObject/D \SubmitPObject>>%
11967     }%
11968     \relax
11969     \MakeButtonField{#2}%
11970     \pdfendlink
11971     \HyField@AddToFields
11972 \endgroup
11973 }
11974 \def\@Reset[#1]#2{%
11975     \Field@toks={ }%
11976     \def\Fld@width{\DefaultWidthofReset}%
11977     \def\Fld@height{\DefaultHeightofReset}%
11978     \begingroup
11979     \expandafter\HyField@SetKeys\expandafter{%
11980         \DefaultOptionsofReset,#1%
11981     }%
11982     \leavevmode
11983     \ifHy@pdfa
11984     \PackageError{hyperref}{%

```

```

11985     PDF/A: Reset action is prohibited%
11986   }\@ehc
11987   \MakeButtonField{#2}%
11988 \else
11989   \HyField@FlagsPushButton
11990   \ifFld@hidden\def\Fld@width{1sp}\fi
11991   \Hy@escapeform\PDFForm@Reset
11992   \pdfstartlink user {\PDFForm@Reset}\relax
11993   \MakeButtonField{#2}%
11994   \pdfendlink
11995   \HyField@AddToFields
11996 \fi
11997 \endgroup
11998 }
11999 \def\@CheckBox[#1]#2{% parameters, label
12000 \def\Fld@name{#2}%
12001 \def\Fld@default{0}%
12002 \begingroup
12003   \def\Fld@width{\DefaultWidthofCheckBox}%
12004   \def\Fld@height{\DefaultHeightofCheckBox}%
12005   \Field@toks={ }%
12006   \expandafter\HyField@SetKeys\expandafter{%
12007     \DefaultOptionsofCheckBox,#1%
12008   }%
12009   \PDFForm@Name
12010   \HyField@FlagsCheckBox
12011   \ifFld@hidden\def\Fld@width{1sp}\fi
12012   \LayoutCheckField{#2}{%
12013     \Hy@escapeform\PDFForm@Check
12014     \pdfstartlink user {\PDFForm@Check}\relax
12015     \MakeCheckField{\Fld@width}{\Fld@height}%
12016     \pdfendlink
12017     \HyField@AddToFields
12018   }%
12019 \endgroup
12020 }
12021 \def\Hy@FormObjects{%
12022 \pdfobj {%
12023   <<%
12024     /Type/Encoding%
12025     /Differences%
12026     24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
12027     /ring/tilde %
12028     39/quotesingle %
12029     96/grave %
12030     128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12031     /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12032     /quotedblbase/quotedblleft/quotedblright/quoteleft%
12033     /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
12034     /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12035     164/currency %
12036     166/brokenbar %
12037     168/dieresis/copyright/ordfeminine %
12038     172/logicalnot/.notdef/registered/macron/degree/plusminus%
12039     /twosuperior/threesuperior/acute/mu %
12040     183/periodcentered/cedilla/onesuperior/ordmasculine %
12041     188/onequarter/onehalf/threequarters %

```

```

12042      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12043      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12044      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12045      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12046      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12047      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12048      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12049      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12050      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
12051      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
12052      ]%
12053      >>%
12054      }%
12055      \xdef\OBJ@pdfdocencoding{\the\pdfastobj}%
12056      \pdfobj{%
12057      <<%
12058      /Type/Font%
12059      /Subtype/Type1%
12060      /Name/ZaDb%
12061      /BaseFont/ZapfDingbats%
12062      >>%
12063      }%
12064      \xdef\OBJ@ZaDb{\the\pdfastobj}%
12065      \pdfobj{%
12066      <<%
12067      /Type/Font%
12068      /Subtype/Type1%
12069      /Name/Helv%
12070      /BaseFont/Helvetica%
12071      /Encoding \OBJ@pdfdocencoding\space 0 R%
12072      >>%
12073      }%
12074      \xdef\OBJ@Helv{\the\pdfastobj}%
12075      \global\let\Hy@FormObjects\relax
12076      }
12077      </pdftex>

```

## 47.5 dvipdfm, xetex

D. P. Story adapted the pdf<sub>T</sub>E<sub>X</sub> forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
12078 <*dvipdfm | xetex>
```

\@Gauge

```

12079 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12080 \typeout{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
12081 }

```

\@Form

```

12082 \def\@Form[#1]{%
12083   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12084   \setkeys{Form}{#1}%
12085   \Hy@FormObjects
12086   \@pdfm@mark{obj @afields []}%
12087   \@pdfm@mark{obj @corder []}%
12088   \@pdfm@mark{%
12089     obj @aform <<%

```

```

12090 /Fields @afields%
12091 /DR<<%
12092 /Font<<%
12093 /ZaDb @OBJZaDb%
12094 /Helv @OBJHelv%
12095 >>%
12096 >>%
12097 /DA(/Helv 10 Tf 0 g)%
12098 /CO @corder%
12099 \ifHy@pdfa
12100 \else
12101 /NeedAppearances true%
12102 \fi
12103 >>%
12104 }%
12105 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
12106 }

```

\@endForm

```

12107 \def\@endForm{}

```

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

```

12108 \def\dvipdfm@setdim{%
12109 height \the\ht\pdfm@box\space
12110 width \the\wd\pdfm@box\space
12111 depth \the\dp\pdfm@box\space
12112 }

```

\HyField@AnnotCount

```

12113 \newcount\HyField@AnnotCount
12114 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

12115 \def\HyField@AdvanceAnnotCount{%
12116 \global\advance\HyField@AnnotCount\@ne
12117 }

```

\HyField@TheAnnotCount

```

12118 \def\HyField@TheAnnotCount{%
12119 \the\HyField@AnnotCount
12120 }

```

\@TextField

```

12121 \def\@TextField[#1]#2{% parameters, label
12122 \def\Fld@name{#2}%
12123 \def\Fld@default{}%
12124 \let\Fld@value\@empty
12125 \def\Fld@width{\DefaultWidthofText}%
12126 \def\Fld@height{%
12127 \ifFld@multiline
12128 \DefaultHeightofTextMultiline
12129 \else
12130 \DefaultHeightofText
12131 \fi
12132 }%
12133 \begingroup

```

```

12134 \Field@toks={ }%
12135 \expandafter\HyField@SetKeys\expandafter{%
12136 \DefaultOptionsofText,#1%
12137 }%
12138 \PDFForm@Name
12139 \HyField@FlagsText
12140 \ifFld@hidden\def\Fld@width{1sp}\fi
12141 \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
12142 \setbox\pdfm@box=\hbox{%
12143 \MakeTextField{\Fld@width}{\Fld@height}%
12144 }%
12145 \HyField@AdvanceAnnotCount
12146 \LayoutTextField{#2}{%
12147 \Hy@escapeform\PDFForm@Text
12148 \@pdfm@mark{%
12149 ann @text\HyField@TheAnnotCount\space
12150 \dvipdfm@setdim << \PDFForm@Text >>%
12151 }%
12152 }%
12153 \unhbox\pdfm@box
12154 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
12155 % record in @afields array
12156 \endgroup
12157 }

```

#### \@ChoiceMenu

```

12158 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12159 \def\Fld@name{#2}%
12160 \let\Fld@default\relax
12161 \let\Fld@value\relax
12162 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12163 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12164 \begingroup
12165 \Fld@menulength=0 %
12166 \@tempdima\z@
12167 \@for\@curropt:=#3\do{%
12168 \expandafter\Fld@checkequals\@curropt==\%
12169 \Hy@StepCount\Fld@menulength
12170 \settowidth{\@tempdimb}{\@currDisplay}%
12171 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12172 }%
12173 \advance\@tempdima by 15\p@
12174 \Field@toks={ }%
12175 \begingroup
12176 \HyField@SetKeys{#1}%
12177 \edef\x{\endgroup
12178 \noexpand\expandafter
12179 \noexpand\HyField@SetKeys
12180 \noexpand\expandafter{%
12181 \expandafter\noexpand\csname DefaultOptionsof%
12182 \ifFld@radio
12183 Radio%
12184 \else
12185 \ifFld@combo
12186 \ifFld@popdown
12187 PopdownBox%
12188 \else

```

```

12189         ComboBox%
12190     \fi
12191 \else
12192     ListBox%
12193 \fi
12194 \fi
12195 \endcsname
12196 }%
12197 }\x
12198 \HyField@SetKeys{#1}%
12199 \PDFForm@Name
12200 \ifFld@hidden\def\Fld@width{1sp}\fi
12201 \ifx\Fld@value\relax
12202     \let\Fld@value\Fld@default
12203 \fi
12204 \LayoutChoiceField{#2}{%
12205     \ifFld@radio
12206         \HyField@FlagsRadioButton
12207         \@@Radio{#3}%
12208     \else
12209         \begingroup
12210         \HyField@FlagsChoice
12211         \ifdim\Fld@width<\@tempdima
12212             \ifdim\@tempdima<1cm\@tempdima1cm\fi
12213             \edef\Fld@width{\the\@tempdima}%
12214         \fi
12215         \ifFld@combo
12216         \else
12217             \@tempdima=\the\Fld@menulength\Fld@charsize
12218             \advance\@tempdima by \Fld@borderwidth bp %
12219             \advance\@tempdima by \Fld@borderwidth bp %
12220             \edef\Fld@height{\the\@tempdima}%
12221         \fi
12222         \@@ListBox{#3}%
12223         \endgroup
12224     \fi
12225 }%
12226 \endgroup
12227 }

```

\@@Radio

```

12228 \def\@@Radio#1{%
12229     \Fld@listcount=0 %
12230     \setbox\pdfm@box=\hbox{%
12231         \MakeRadioField{\Fld@width}{\Fld@height}%
12232     }%
12233     \@for\@curropt:=#1\do{%
12234         \expandafter\Fld@checkequals\@curropt==\%
12235         \Hy@StepCount\Fld@listcount
12236         \@currDisplay\space
12237         \leavevmode
12238         \Hy@escapeform\PDFForm@Radio
12239         \ifnum\Fld@listcount=1 %
12240             \HyField@AdvanceAnnotCount
12241         \fi
12242         \@pdfm@mark{%
12243             ann %

```



```

12244 \ifnum\Fld@listcount=1 %
12245   @radio\HyField@TheAnnotCount%
12246   \space
12247 \fi
12248 \dviPDFForm@setdim
12249 <<%
12250   \PDFForm@Radio
12251   /AP<</N<</\@currValue /null>>>>%
12252   >>%
12253 }%
12254 \unhcopy\pdfm@box\space% deliberate space between radio buttons
12255 \ifnum\Fld@listcount=1 %
12256   \@pdfm@mark{%
12257     put @afields @radio\HyField@TheAnnotCount
12258   }%
12259 \fi
12260 }%
12261 }

```

\Fld@listcount

```

12262 \newcount\Fld@listcount

```

\@@Listbox

```

12263 \def\@@Listbox#1{%
12264   \HyField@PDFChoices{#1}%
12265   \setbox\pdfm@box=\hbox{%
12266     \MakeChoiceField{\Fld@width}{\Fld@height}%
12267   }%
12268   \leavevmode
12269   \Hy@escapeform\PDFForm@List
12270   \HyField@AdvanceAnnotCount
12271   \@pdfm@mark{%
12272     ann @list\HyField@TheAnnotCount\space
12273     \dviPDFForm@setdim
12274     <<\PDFForm@List>>%
12275   }%
12276   \unhbox\pdfm@box
12277   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
12278 }

```

\@PushButton

```

12279 \def\@PushButton[#1]#2{% parameters, label
12280   \def\Fld@name{#2}%
12281   \begingroup
12282     \Field@toks={ }%
12283     \expandafter\HyField@SetKeys\expandafter{%
12284       \DefaultOptionsofPushButton,#1%
12285     }%
12286     \PDFForm@Name
12287     \ifHy@pdfa
12288       \PackageError{hyperref}{%
12289         PDF/A: Push button with JavaScript is prohibited%
12290       }\@ehc
12291     \LayoutPushButtonField{%
12292       \leavevmode
12293       \MakeButtonField{#2}%
12294     }%

```

```

12295 \else
12296 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12297 \HyField@FlagsPushButton
12298 \ifFld@hidden\def\Fld@width{1sp}\fi
12299 \HyField@AdvanceAnnotCount
12300 \LayoutPushButtonField{%
12301 \leavevmode
12302 \Hy@escapeform\PDFForm@Push
12303 \@pdfm@mark{%
12304 ann @push\HyField@TheAnnotCount\space
12305 \dvipdfm@setdim
12306 <<\PDFForm@Push>>%
12307 }%
12308 }%
12309 \unhbox\pdfm@box
12310 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
12311 \fi
12312 \endgroup
12313 }

```

\@Submit

```

12314 \def\@Submit[#1]#2{%
12315 \Field@toks={ }%
12316 \def\Fld@width{\DefaultWidthofSubmit}%
12317 \def\Fld@height{\DefaultHeightofSubmit}%
12318 \begingroup
12319 \expandafter\HyField@SetKeys\expandafter{%
12320 \DefaultOptionsofSubmit,#1%
12321 }%
12322 \HyField@FlagsPushButton
12323 \HyField@FlagsSubmit
12324 \ifFld@hidden\def\Fld@width{1sp}\fi
12325 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12326 \leavevmode
12327 \Hy@escapeform\PDFForm@Submit
12328 \HyField@AdvanceAnnotCount
12329 \@pdfm@mark{%
12330 ann @submit\HyField@TheAnnotCount\space
12331 \dvipdfm@setdim
12332 <<\PDFForm@Submit>>%
12333 }%
12334 \unhbox\pdfm@box%
12335 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
12336 \endgroup
12337 }

```

\@Reset

```

12338 \def\@Reset[#1]#2{%
12339 \Field@toks={ }%
12340 \def\Fld@width{\DefaultWidthofReset}%
12341 \def\Fld@height{\DefaultHeightofReset}%
12342 \begingroup
12343 \expandafter\HyField@SetKeys\expandafter{%
12344 \DefaultOptionsofReset,#1%
12345 }%
12346 \leavevmode
12347 \ifHy@pdfa

```

```

12348 \PackageError{hyperref}{%
12349   PDF/A: Reset action is prohibited%
12350 } \@ehc
12351 \MakeButtonField{#2}%
12352 \else
12353 \HyField@FlagsPushButton
12354 \ifFld@hidden\def\Fld@width{1sp}\fi
12355 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12356 \Hy@escapeform\PDFForm@Reset
12357 \HyField@AdvanceAnnotCount
12358 \@pdfm@mark{%
12359   ann @reset\HyField@TheAnnotCount\space
12360   \dvipdfm@setdim
12361   <<\PDFForm@Reset>>%
12362 }%
12363 \unhbox\pdfm@box
12364 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
12365 \fi
12366 \endgroup
12367 }

```

#### \@CheckBox

```

12368 \def\@CheckBox[#1]#2{% parameters, label
12369 \def\Fld@name{#2}%
12370 \def\Fld@default{0}%
12371 \begingroup
12372 \def\Fld@width{\DefaultWidthofCheckBox}%
12373 \def\Fld@height{\DefaultHeightofCheckBox}%
12374 \Field@toks={ }%
12375 \expandafter\HyField@SetKeys\expandafter{%
12376   \DefaultOptionsofCheckBox,#1%
12377 }%
12378 \PDFForm@Name
12379 \HyField@FlagsCheckBox
12380 \ifFld@hidden\def\Fld@width{1sp}\fi
12381 \setbox\pdfm@box=\hbox{%
12382   \MakeCheckField{\Fld@width}{\Fld@height}%
12383 }%
12384 \HyField@AdvanceAnnotCount
12385 \LayoutCheckField{#2}{%
12386   \Hy@escapeform\PDFForm@Check
12387   \@pdfm@mark{%
12388     ann @check\HyField@TheAnnotCount\space
12389     \dvipdfm@setdim
12390     <<\PDFForm@Check>>%
12391   }%
12392   \unhbox\pdfm@box
12393   \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
12394 }%
12395 \endgroup
12396 }

12397 \def\Hy@FormObjects{%
12398 \@pdfm@mark{obj @OBJpdfdocencoding%
12399 <<%
12400 /Type/Encoding%
12401 /Differences%
12402   24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %

```

```

12403 39/quotesingle %
12404 96/grave %
12405 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12406 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12407 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
12408 /quotesinglbase/trademark/ffi/ffl/Lslash/OE/Scaron/Ydieresis%
12409 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12410 164/currency %
12411 166/brokenbar %
12412 168/dieresis/copyright/ordfeminine %
12413 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12414 /twosuperior/threesuperior/acute/mu %
12415 183/periodcentered/cedilla/onesuperior/ordmasculine %
12416 188/onequarter/onehalf/threequarters %
12417 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12418 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
12419 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
12420 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
12421 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
12422 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
12423 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
12424 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
12425 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
12426 /thorn/ydieresis%
12427 ]%
12428 >>%
12429 }%
12430 \@pdfm@mark{obj @OBJZaDb%
12431 <<%
12432 /Type/Font%
12433 /Subtype/Type1%
12434 /Name/ZaDb%
12435 /BaseFont/ZapfDingbats%
12436 >>%
12437 }%
12438 \@pdfm@mark{obj @OBJHelv%
12439 <<%
12440 /Type/Font%
12441 /Subtype/Type1%
12442 /Name/Helv%
12443 /BaseFont/Helvetica%
12444 /Encoding @OBJpdfdocencoding%
12445 >>%
12446 }%
12447 \global\let\Hy@FormObjects\relax
12448 }
12449 </dvipdfm | xetex>

```

## 47.6 Common forms part

```
12450 <*pdfform>
```

```
\Hy@escapestring
```

```

12451 \begingroup\expandafter\expandafter\expandafter\endgroup
12452 \expandafter\ifx\csname pdfescapestring\endcsname\relax
12453 \let\Hy@escapestring\@firstofone
12454 \def\Hy@escapeform#1{%

```

```

12455 \ifHy@escapeform
12456 \def\Hy@escapestring##1{%
12457 \noexpand\Hy@escapestring{\noexpand##1}%
12458 }%
12459 \edef\Hy@temp{#1}%
12460 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
12461 \def\Hy@escapestring##1{%
12462 \@ifundefined{Hy@esc@\string##1}{%
12463 ##1%
12464 \ThisShouldNotHappen
12465 }{%
12466 \csname Hy@esc@\string##1\endcsname
12467 }%
12468 }%
12469 \else
12470 \let\Hy@escapestring\@firstofone
12471 \fi
12472 }%
12473 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
12474 \ifx\#3\%
12475 \else
12476 \expandafter
12477 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
12478 \Hy@ReturnAfterFi{%
12479 \Hy@@escapeform#3\@nil
12480 }%
12481 \fi
12482 }%
12483 \else
12484 \def\Hy@escapeform#1{%
12485 \ifHy@escapeform
12486 \let\Hy@escapestring\pdfescapestring
12487 \else
12488 \let\Hy@escapestring\@firstofone
12489 \fi
12490 }%
12491 \Hy@escapeform{}%
12492 \fi

```

\PDFForm@Name

```

12493 \def\PDFForm@Name{%
12494 \begingroup
12495 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
12496 \ifHy@unicode
12497 \Hy@unicodedefalse
12498 \fi
12499 \fi
12500 \HyPsd@XeTeXBigCharstrue
12501 \pdfstringdef\Hy@gtemp\Fld@name
12502 \endgroup
12503 \let\Fld@name\Hy@gtemp
12504 }

```

\PDFForm@Check

```

12505 \def\PDFForm@Check{%
12506 /Subtype/Widget%
12507 \Fld@annotflags

```

```

12508 /T(\Fld@name)%
12509 /FT/Btn%
12510 \Fld@flags
12511 /Q \Fld@align
12512 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
12513 /MK<<%
12514 \ifnum\Fld@rotation=\z@
12515 \else
12516 /R \Fld@rotation
12517 \fi
12518 \ifx\Fld@bordercolor\relax
12519 \else
12520 /BC[\Fld@bordercolor]%
12521 \fi
12522 \ifx\Fld@bcolor\relax
12523 \else
12524 /BG[\Fld@bcolor]%
12525 \fi
12526 /CA(\Hy@escapestring{\Fld@cbsymbol})%
12527 >>%
12528 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12529 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12530 /H/P%
12531 \ifFld@checked /V/Yes\else /V/Off\fi
12532 }

```

\PDFForm@Push

```

12533 \ifHy@pdfa
12534 \else
12535 \def\PDFForm@Push{%
12536 /Subtype/Widget%
12537 \Fld@annotflags
12538 /T(\Fld@name)%
12539 /FT/Btn%
12540 \Fld@flags
12541 /H/P%
12542 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12543 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12544 \ifx\Fld@bordercolor\relax\else 1\fi
12545 \space
12546 \else
12547 /MK<<%
12548 \ifnum\Fld@rotation=\z@
12549 \else
12550 /R \Fld@rotation
12551 \fi
12552 \ifx\Fld@bordercolor\relax
12553 \else
12554 /BC[\Fld@bordercolor]%
12555 \fi
12556 >>%
12557 \fi
12558 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
12559 }%
12560 \fi

```

\Fld@additionalactions

```

12561 \def\Fld@@additionalactions{%
K input (keystroke) format
12562 \ifx\Fld@keystroke@code\@empty
12563 \else
12564 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
12565 \fi
F display format
12566 \ifx\Fld@format@code\@empty
12567 \else
12568 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
12569 \fi
V validation
12570 \ifx\Fld@validate@code\@empty
12571 \else
12572 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
12573 \fi
C calculation
12574 \ifx\Fld@calculate@code\@empty
12575 \else
12576 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
12577 \fi
Fo receiving the input focus
12578 \ifx\Fld@onfocus@code\@empty
12579 \else
12580 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
12581 \fi
Bl loosing the input focus (blurred)
12582 \ifx\Fld@onblur@code\@empty
12583 \else
12584 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
12585 \fi
D pressing the mouse button (down)
12586 \ifx\Fld@onmousedown@code\@empty
12587 \else
12588 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
12589 \fi
U releasing the mouse button (up)
12590 \ifx\Fld@onmouseup@code\@empty
12591 \else
12592 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
12593 \fi
E cursor enters the annotation's active area.
12594 \ifx\Fld@onenter@code\@empty
12595 \else
12596 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
12597 \fi
X cursor exits the annotation's active area.
12598 \ifx\Fld@onexit@code\@empty
12599 \else
12600 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
12601 \fi

```

```

12602 }
12603 \def\Fld@additionalactions{%
12604   \if\Fld@@additionalactions-%
12605   \else
12606     \ifHy@pdfa
12607     \else
12608       /AA<<\Fld@@additionalactions>>%
12609     \fi
12610   \fi
12611 }

```

#### \PDFForm@List

```

12612 \def\PDFForm@List{%
12613   /Subtype/Widget%
12614   \Fld@annotflags
12615   /T(\Fld@name)%
12616   /FT/Ch%
12617   \Fld@flags
12618   /Q \Fld@align
12619   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12620   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12621     \ifx\Fld@bordercolor\relax\else 1\fi
12622     \ifx\Fld@bcolor\relax \else 1\fi
12623     \space
12624   \else
12625     /MK<<%
12626     \ifnum\Fld@rotation=\z@
12627     \else
12628       /R \Fld@rotation
12629     \fi
12630     \ifx\Fld@bordercolor\relax
12631     \else
12632       /BC[\Fld@bordercolor]%
12633     \fi
12634     \ifx\Fld@bcolor\relax
12635     \else
12636       /BG[\Fld@bcolor]%
12637     \fi
12638     >>%
12639   \fi
12640   /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12641     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12642   \Fld@choices
12643   \Fld@additionalactions
12644 }

```

#### \PDFForm@Radio

```

12645 \def\PDFForm@Radio{%
12646   /Subtype/Widget%
12647   \Fld@annotflags
12648   /T(\Fld@name)%
12649   /FT/Btn%
12650   \Fld@flags
12651   /H/P%
12652   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12653   /MK<<%
12654     \ifnum\Fld@rotation=\z@

```



```

12655 \else
12656 /R \Fld@rotation
12657 \fi
12658 \ifx\Fld@bordercolor\relax
12659 \else
12660 /BC[\Fld@bordercolor]%
12661 \fi
12662 \ifx\Fld@bcolor\relax
12663 \else
12664 /BG[\Fld@bcolor]%
12665 \fi
12666 /CA(\Fld@radiosymbol)%
12667 >>%
12668 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12669 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12670 \ifx\@currValue\Fld@default
12671 /V/\Fld@default
12672 \else
12673 /V/Off%
12674 \fi
12675 \Fld@additionalactions
12676 }

```

#### \PDFForm@Text

```

12677 \def\PDFForm@Text{%
12678 /Subtype/Widget%
12679 \Fld@annotflags
12680 /T(\Fld@name)%
12681 /FT/Tx%
12682 \Fld@flags
12683 /Q \Fld@align
12684 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
12685 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12686 \ifx\Fld@bordercolor\relax\else 1\fi
12687 \ifx\Fld@bcolor\relax \else 1\fi
12688 \space
12689 \else
12690 /MK<<%
12691 \ifnum\Fld@rotation=\z@
12692 \else
12693 /R \Fld@rotation
12694 \fi
12695 \ifx\Fld@bordercolor\relax
12696 \else
12697 /BC[\Fld@bordercolor]%
12698 \fi
12699 \ifx\Fld@bcolor\relax
12700 \else
12701 /BG[\Fld@bcolor]%
12702 \fi
12703 >>%
12704 \fi
12705 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12706 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12707 /DV(\Hy@escapestring{\Fld@default})%
12708 /V(\Hy@escapestring{\Fld@value})%
12709 \Fld@additionalactions

```

```

12710 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
12711 }

```

#### \PDFForm@Submit

```

12712 \def\PDFForm@Submit{%
12713   /Subtype/Widget%
12714   \Fld@annotflags
12715   /T(\Fld@name)%
12716   /FT/Btn%
12717   \Fld@flags
12718   /H/P%
12719   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12720   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12721     \ifx\Fld@bordercolor\relax\else 1\fi
12722     \space
12723   \else
12724     /MK<<%
12725     \ifnum\Fld@rotation=\z@
12726     \else
12727       /R \Fld@rotation
12728     \fi
12729     \ifx\Fld@bordercolor\relax
12730     \else
12731       /BC[\Fld@bordercolor]%
12732     \fi
12733   >>%
12734 \fi
12735 /A<<%
12736 /S/SubmitForm%
12737 /F<<%
12738 /FS/URL%
12739 /F(\Hy@escapestring{\Form@action})%
12740 >>%
12741 \Fld@submitflags
12742 >>%
12743 }

```

#### \PDFForm@Reset

```

12744 \ifHy@pdfa
12745 \else
12746 \def\PDFForm@Reset{%
12747   /Subtype/Widget%
12748   \Fld@annotflags
12749   /T(\Fld@name)%
12750   /FT/Btn%
12751   \Fld@flags
12752   /H/P%
12753   /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
12754   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12755     \ifx\Fld@bordercolor\relax\else 1\fi
12756     \space
12757   \else
12758     /MK<<%
12759     \ifnum\Fld@rotation=\z@
12760     \else
12761       /R \Fld@rotation
12762     \fi

```

```

12763      \ifx\Fld@bordercolor\relax
12764      \else
12765      /BC[\Fld@bordercolor]%
12766      \fi
12767 %      /CA (Clear)
12768 %      /AC (Done)
12769      >>%
12770      \fi
12771      /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12772      /A<</S/ResetForm>>%
12773      }%
12774 \fi

12775 </pdfform>
12776 <*package>

```

## 48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in L<sup>A</sup>T<sub>E</sub>X macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

12777 \def\phantomsection{%
12778   \Hy@MakeCurrentHrefAuto{section*}%
12779   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
12780 }
12781 </package>

```

### 48.1 Bookmarks

```

12782 <*outlines>

```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on  $\varepsilon$ -T<sub>E</sub>X, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of  $\varepsilon$ -T<sub>E</sub>X's implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the `bookmark@seq@number` counter is used to write the bookmark's sequential number into a comment in the `\@outlinefile`, which could be used to post-process it to achieve the proper ordering of `\BOOKMARK` commands in that file.

```

12783 \def\Hy@writebookmark#1#2#3#4#5{%
12784   % section number, text, label, level, file
12785   \ifx\WriteBookmarks\relax%
12786   \else
12787     \ifnum#4>\Hy@bookmarksdepth\relax
12788     \else

```

```

12789 \@@writetorep{#1}{#2}{#3}{#4}{#5}%
12790 \fi
12791 \fi
12792 }
12793 \def\Hy@currentbookmarklevel{0}
12794 \def\Hy@numberline#1{#1 }
12795 \def\@@writetorep#1#2#3#4#5{%
12796 \begingroup
12797 \edef\Hy@tempa{#5}%
12798 \ifx\Hy@tempa\Hy@bookmarkstype
12799 \edef\Hy@level{#4}%
12800 \ifx\Hy@levelcheck Y%
12801 \@tempcnta\Hy@level\relax
12802 \advance\@tempcnta by -1 %
12803 \ifnum\Hy@currentbookmarklevel<\@tempcnta
12804 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
12805 \advance\@tempcnta by 1 %
12806 \Hy@Warning{%
12807 Difference (\the\@tempcnta) between bookmark levels is %
12808 greater \MessageBreak than one, level fixed%
12809 }%
12810 \@tempcnta\Hy@currentbookmarklevel
12811 \advance\@tempcnta by 1 %
12812 \edef\Hy@level{\the\@tempcnta}%
12813 \fi
12814 \else
12815 \global\let\Hy@levelcheck Y%
12816 \fi
12817 \global\let\Hy@currentbookmarklevel\Hy@level
12818 \@tempcnta\Hy@level\relax
12819 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
12820 \advance\@tempcnta by -1 %
12821 \edef\Hy@tempa{#3}%
12822 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
12823 \ifx\Hy@tempa\Hy@tempb
12824 \Hy@Warning{%
12825 The anchor of a bookmark and its parent's must not%
12826 \MessageBreak be the same. Added a new anchor%
12827 }%
12828 \phantomsection
12829 \fi
12830 \ifHy@bookmarksnumbered
12831 \let\numberline\Hy@numberline
12832 \let\partnumberline\Hy@numberline
12833 \let\chapternumberline\Hy@numberline
12834 \else
12835 \let\numberline\@gobble
12836 \let\partnumberline\@gobble
12837 \let\chapternumberline\@gobble
12838 \fi
12839 \HyPsd@XeTeXBigCharstrue
12840 \pdfstringdef\Hy@tempa{#2}%
12841 \HyPsd@SanitizeForOutFile\Hy@tempa
12842 \if@filesw
12843 \stepcounter{bookmark@seq@number}%
12844 \@ifundefined{@outlinefile}{%
12845 }{%

```

```

12846     \protected@write\@outlinefile{}{%
12847     \protect\BOOKMARK
12848     [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
12849     {\Hy@tempa}{\Hy@tempb}%
12850     \@percentchar\space\thebookmark@seq@number
12851     }%
12852     }%
12853     \fi
12854     \fi
12855     \endgroup
12856 }
12857 \newcounter{bookmark@seq@number}

12858 \begingroup
12859 \lccode'('= '{%
12860 \lccode'('= '}%
12861 \lccode'1=\z@
12862 \lccode'2=\z@
12863 \lccode'3=\z@
12864 \lccode'5=\z@
12865 \lccode'7=\z@
12866 \lccode'\#=\z@
12867 \lccode'\='=\z@
12868 \lccode'\{=\z@
12869 \lccode'\}=\z@
12870 \lowercase{%
12871 \endgroup
12872 \def\HyPsd@SanitizeForOutFile#1{%
12873     \@onelevel@sanitize\Hy@tempa
12874     \escapechar'\%
12875     \edef\Hy@tempa{%
12876         \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa\@nil
12877     }%
12878     \edef\Hy@tempa{%
12879         \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa\@nil
12880     }%
12881 }%
12882 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
12883     #1%
12884     \ifx\#2\%
12885         \expandafter\ltx@gobble
12886     \else
12887         \expandafter\ltx@firstofone
12888     \fi
12889     {%
12890         \string\173%
12891         \HyPsd@SanitizeOut@BraceLeft#2\@nil
12892     }%
12893 }%
12894 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
12895     #1%
12896     \ifx\#2\%
12897         \expandafter\ltx@gobble
12898     \else
12899         \expandafter\ltx@firstofone
12900     \fi
12901     {%
12902         \string\175%

```

```

12903 \HyPsd@SanitizeOut@BraceRight#2\@nil
12904 }%
12905 }%
12906 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

12907 \newcommand{\currentpdfbookmark}{%
12908 \pdfbookmark[\Hy@currentbookmarklevel]%
12909 }
12910 \newcommand{\subpdfbookmark}{%
12911 \@tempcnta\Hy@currentbookmarklevel
12912 \Hy@StepCount\@tempcnta
12913 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
12914 }
12915 \newcommand{\belowpdfbookmark}[2]{%
12916 \@tempcnta\Hy@currentbookmarklevel
12917 \Hy@StepCount\@tempcnta
12918 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
12919 \advance\@tempcnta by -1 %
12920 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
12921 }

```

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.

```

12922 \renewcommand\pdfbookmark[3][0]{%
12923 \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
12924 \hyper@anchorstart{#3.#1}\hyper@anchorend
12925 }
12926 \def\BOOKMARK{%
12927 \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
12928 }
12929 \def\@BOOKMARK[#1]{%
12930 \@ifnextchar[{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
12931 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

#### 48.1.1 Rerun warning

```
\Hy@OutlineRerunCheck
```

```

12932 \RequirePackage{rerunfilecheck}[2009/12/10]
12933 \def\Hy@OutlineRerunCheck{%
12934 \RerunFileCheck{\jobname.out}{%
12935 \immediate\closeout\@outlinefile
12936 }{%
12937 Rerun to get outlines right\MessageBreak
12938 or use package 'bookmark'%
12939 }%
12940 }

```

#### 48.1.2 Driver stuff

The `VTEX` section was written originally by `VTEX`, but then amended by Denis Girou (denis.girou@idris.fr), then by by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that `VTEX`, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping `\` and the like.

```

12941 <*vtex>
12942 \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.

```

12943 \begingroup
12944 \catcode'\'=12 %
12945 \ifnum\Hy@VTeXversion<650 %
12946 \catcode'\=12 %
12947 \gdef\hv@pdf@char#1#2#3{%
12948 \char
12949 \ifcase'#1#2#3 %
12950 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
12951 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
12952 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
12953 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
12954 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
12955 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
12956 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
12957 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
12958 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
12959 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
12960 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
12961 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
12962 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
12963 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
12964 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
12965 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
12966 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
12967 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
12968 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
12969 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
12970 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
12971 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
12972 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
12973 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
12974 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
12975 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
12976 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
12977 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
12978 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
12979 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
12980 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
12981 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
12982 \fi
12983 }%
12984 \else
12985 \gdef\hv@pdf@char{\char'}%
12986 \fi
12987 \endgroup

```

\@@BOOKMARK

```

12988 \def\@@BOOKMARK[#1][#2]#3#4#5{%
12989 \expandafter\edef\csname @count@#3\endcsname{%
12990 \the\@serial@counter
12991 }%

```

```

12992 \edef\@mycount{\the\@serial@counter}%
12993 \Hy@StepCount\@serial@counter
12994 \edef\@parcount{%
12995   \expandafter\ifx\csname @count@#5\endcsname\relax
12996     0%
12997   \else
12998     \csname @count@#5\endcsname
12999   \fi
13000 }%
13001 \immediate\special{%
13002   !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
13003   s=\ifx#2-c\else o\fi,t=#4%
13004 }%
13005 }%

```

#### \ReadBookmarks

```

13006 \def\ReadBookmarks{%
13007   \begingroup
13008   \def\0{\hv@pdf@char 0}%
13009   \def\1{\hv@pdf@char 1}%
13010   \def\2{\hv@pdf@char 2}%
13011   \def\3{\hv@pdf@char 3}%
13012   \def\({}%
13013   \def\)}%
13014   \def\do##1{%
13015     \ifnum\catcode'##1=\active
13016       \@makeother##1%
13017     \else
13018       \ifnum\catcode'##1=6 %
13019         \@makeother##1%
13020       \fi
13021     \fi
13022   }%
13023   \dospecials
13024   \Hy@safe@activetrue
13025   \InputIfFileExists{\jobname.out}{-}{-}%
13026 \endgroup
13027 \ifx\WriteBookmarks\relax
13028 \else
13029   \if@files
13030     \newwrite\@outlinefile
13031     \Hy@OutlineRerunCheck
13032     \immediate\openout\@outlinefile=\jobname.out\relax
13033     \ifHy@typexml
13034       \immediate\write\@outlinefile{<relaxxml>\relax}%
13035     \fi
13036   \fi
13037 \fi
13038 }

13039 </vtex>

13040 <!*vtex>
13041 \def\ReadBookmarks{%
13042   \begingroup
13043   \def\do##1{%
13044     \ifnum\catcode'##1=\active
13045       \@makeother##1%

```





```

13103 \def\WriteBookmarks{0}%
13104 \InputIfFileExists{\jobname.out}{\relax}%
13105 }%
13106 %{\escapechar\mOne\InputIfFileExists{\jobname.out}{\relax}}%
13107 \ifx\WriteBookmarks\relax
13108 \else
13109 \if@filesw
13110 \newwrite\@outlinefile
13111 \Hy@OutlineRerunCheck
13112 \immediate\openout\@outlinefile=\jobname.out\relax
13113 \ifHy@typexml
13114 \immediate\write\@outlinefile{<relaxxml>\relax}%
13115 \fi
13116 \fi
13117 \fi
13118 \endgroup
13119 }
13120 <*pdfTeX>
13121 \def\Hy@OutlineName#1#2#3#4{%
13122 \pdfoutline goto name{#2}count#3{#4}%
13123 }
13124 </pdfTeX>
13125 \def\check@bm@number#1{%
13126 \expandafter\ifx\csname B_#1\endcsname\relax
13127 0%
13128 \else
13129 \csname B_#1\endcsname
13130 \fi
13131 }
13132 \def\calc@bm@number#1{%
13133 \@tempcnta=\check@bm@number{#1}\relax
13134 \advance\@tempcnta by 1 %
13135 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
13136 }
13137 </!vtex>
13138 \ifHy@implicit
13139 \else
13140 \expandafter\endinput
13141 \fi
13142 </outlines>
13143 <*outlines | hypertex>
13144 \newlength\Hy@SectionHShift
13145 \def\Hy@SectionAnchorHref#1{%
13146 \ifx\protect\@typeset@protect
13147 \Hy@@@SectionAnchor{#1}%
13148 \fi
13149 }
13150 \DeclareRobustCommand*\Hy@@@SectionAnchor[1]{%
13151 \leavevmode
13152 \hbox to 0pt{%
13153 \kern-\Hy@SectionHShift
13154 \Hy@raisedlink{%
13155 \hyper@anchorstart{#1}\hyper@anchorend
13156 }%
13157 \hss
13158 }%

```

```

13159 }
13160 \let\H@old@ssect\@ssect
13161 \def\@ssect#1#2#3#4#5{%
13162   \Hy@MakeCurrentHrefAuto{section*}%
13163   \setlength{\Hy@SectionHShift}{#1}%
13164   \begingroup
13165     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
13166     \toks\tw@\expandafter{%
13167       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13168       #5%
13169     }%
13170   \edef\x{\endgroup
13171     \the\toks@{\the\toks\tw@}}%
13172   }\x
13173 }
13174 \let\H@old@schapter\@schapter
13175 \def\@schapter#1{%
13176   \begingroup
13177     \let\@mkboth\@gobbletwo
13178     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13179     \Hy@raisedlink{%
13180       \hyper@anchorstart{\@currentHref}\hyper@anchorend
13181     }%
13182   \endgroup
13183   \H@old@schapter{#1}%
13184 }

```

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:

```

13185 \ltx@ifundefined{@chapter}{-}{%
13186   \let\Hy@org@chapter\@chapter
13187   \def\@chapter{%
13188     \def\Hy@next{%
13189       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13190       \Hy@raisedlink{%
13191         \hyper@anchorstart{\@currentHref}\hyper@anchorend
13192       }%
13193     }%
13194     \ifnum\c@secnumdepth>\m@ne
13195       \ltx@ifundefined{if@mainmatter}%
13196       \iftrue{\csname if@mainmatter\endcsname}%
13197       \let\Hy@next\relax
13198     \fi
13199     \fi
13200     \Hy@next
13201     \Hy@org@chapter
13202   }%
13203 }
13204 \let\H@old@part\@part
13205 \begingroup\expandafter\expandafter\expandafter\endgroup
13206 \expandafter\ifx\csname chapter\endcsname\relax
13207   \let\Hy@secnum@part\z@
13208 \else
13209   \let\Hy@secnum@part\m@ne
13210 \fi
13211 \def\@part{%

```

```

13212 \ifnum\Hy@secnum@part>\c@secnumdepth
13213 \phantomsection
13214 \fi
13215 \H@old@part
13216 }

13217 \let\H@old@spart\@spart
13218 \def\@spart#1{%
13219 \Hy@MakeCurrentHrefAuto{part*}%
13220 \Hy@raisedlink{%
13221 \hyper@anchorstart{\@currentHref}\hyper@anchorend
13222 }%
13223 \H@old@spart{#1}%
13224 }

13225 \let\H@old@sect\@sect
13226 \def\@sect#1#2#3#4#5#6[#7]#8{%
13227 \ifnum #2>\c@secnumdepth
13228 \expandafter\@firstoftwo
13229 \else
13230 \expandafter\@secondoftwo
13231 \fi
13232 {%
13233 \Hy@MakeCurrentHrefAuto{section*}%
13234 \setlength{\Hy@SectionHShift}{#3}%
13235 \begingroup
13236 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]}%
13237 \toks\tw@\expandafter{%
13238 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13239 #8%
13240 }%
13241 \edef\x{\endgroup
13242 \the\toks@{\the\toks\tw@}}%
13243 }\x
13244 }{%
13245 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]{#8}%
13246 }%
13247 }

13248 </outlines | hypertex>
13249 <*outlines>

13250 \expandafter\def\csname Parent-4\endcsname{}
13251 \expandafter\def\csname Parent-3\endcsname{}
13252 \expandafter\def\csname Parent-2\endcsname{}
13253 \expandafter\def\csname Parent-1\endcsname{}
13254 \expandafter\def\csname Parent0\endcsname{}
13255 \expandafter\def\csname Parent1\endcsname{}
13256 \expandafter\def\csname Parent2\endcsname{}
13257 \expandafter\def\csname Parent3\endcsname{}
13258 \expandafter\def\csname Parent4\endcsname{}

13259 </outlines>

```

## 49 Compatibility with koma-script classes

```
13260 <*outlines | hypertex>
```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scr-

reprt' class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

13261 \def\Hy@tempa{%
13262   \def\@addchap{##1}##2{%
13263     \typeout{##2}%
13264     \if@twoside
13265       \@mkboth{##1}{}%
13266     \else
13267       \@mkboth{}{##1}%
13268     \fi
13269     \addtocontents{lof}{\protect\addvspace{10\p@}}%
13270     \addtocontents{lot}{\protect\addvspace{10\p@}}%
13271     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13272     \Hy@raisedlink{%
13273       \hyper@anchorstart{\@currentHref}\hyper@anchorend
13274     }%
13275     \if@twocolumn
13276       \@topnewpage[\@makeschapterhead{##2}]%
13277     \else
13278       \@makeschapterhead{##2}%
13279       \@afterheading
13280     \fi
13281     \addcontentsline{toc}{chapter}{##1}%
13282   }%
13283 }
13284 \@ifclassloaded{scrbook}{%
13285   \@ifclasslater{scrbook}{2001/01/01}{%
13286     \let\Hy@tempa\@empty
13287   }{}%
13288 }{%
13289   \@ifclassloaded{scrreprt}{%
13290     \@ifclasslater{scrreprt}{2001/01/01}{%
13291       \let\Hy@tempa\@empty
13292     }{}%
13293   }{}%
13294   \let\Hy@tempa\@empty
13295 }%
13296 }%
13297 \Hy@tempa
13298 </outlines | hypertex>

```

## 50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 50.1 PD1 encoding

```

13299 <*pdlenc>
13300 \DeclareFontEncoding{PD1}{-}{}

Accents
13301 \DeclareTextAccent{'}{PD1}{\textasciigrave}
13302 \DeclareTextAccent{'}{PD1}{\textacute}
13303 \DeclareTextAccent{~}{PD1}{\textasciicircum}
13304 \DeclareTextAccent{~}{PD1}{\texttilde}
13305 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
13306 \DeclareTextAccent{r}{PD1}{\textring}

```

```

13307 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
13308 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
13309 \DeclareTextAccent{\c}{PD1}{\textcedilla}
13310 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
13311 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
13312 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
13313 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
13314 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
13315 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
13316 \DeclareTextCompositeCommand{\-}{PD1}{\@empty}{\texttilde}
13317 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
13318 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
13319 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
13320 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
13321 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
13322 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
13323 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
13324 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
13325 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
13326 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
13327 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
13328 \DeclareTextCompositeCommand{\-}{PD1}{\ }{\texttilde}
13329 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
13330 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
13331 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
13332 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
13333 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
13334 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
13335 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
13336 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
13337 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
13338 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
13339 \DeclareTextCommand{\newtie}{PD1}[1]{%
13340 \TextSymbolUnavailable{\newtie{#1}}#1%
13341 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

13342 % U+0009 (CHARACTER TABULATION)
13343 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
13344 % U+000A (LINE FEED)
13345 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
13346 % U+000D (CARRIAGE RETURN)
13347 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

#### Accent glyph names

```

13348 % U+02D8 BREVE; breve
13349 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
13350 % U+02C7 CARON; caron
13351 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
13352 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
13353 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
13354 % U+02D9 DOT ABOVE; dotaccent
13355 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
13356 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
13357 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
13358 % U+02DB OGONEK; ogonek
13359 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
13360 % U+02DA RING ABOVE; ring
13361 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA

```

13362 % U+02DC SMALL TILDE; ilde, \*tilde  
 13363 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC  
 \040: U+0020 SPACE; \*space, spacehackarabic  
 \041: U+0021 EXCLAMATION MARK; exclam  
 13364 % U+0022 QUOTATION MARK; quotedbl  
 13365 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022  
 13366 % U+0023 NUMBER SIGN; numbersign  
 13367 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023  
 13368 % U+0024 DOLLAR SIGN; dollar  
 13369 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024  
 13370 % U+0025 PERCENT SIGN; percent  
 13371 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
 13372 % U+0026 AMPERSAND; ampersand  
 13373 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
 \047: U+0027 APOSTROPHE; quotesingle  
  
 13374 % U+0028 LEFT PARENTHESIS; parenleft  
 13375 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028  
 13376 % U+0029 RIGHT PARENTHESIS; parenright  
 13377 \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  
 13378 % U+002E FULL STOP; period  
 13379 \DeclareTextCommand{\textdotbelow}{PD1}{\string\cdot}% \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  
 13380 % U+003C LESS-THAN SIGN; less  
 13381 \DeclareTextCommand{\textless}{PD1}{\string\<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 13382 % U+003E GREATER-THAN SIGN; greater  
 13383 \DeclareTextCommand{\textgreater}{PD1}{\string\>}% \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  
 13384 % U+005C REVERSE SOLIDUS; backslash  
 13385 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 13386 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 13387 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 13388 % U+005F LOW LINE; underscore  
 13389 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 13390 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 13391 % U+0060 GRAVE ACCENT; grave  
 13392 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060

\141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 13393 % U+0069 LATIN SMALL LETTER I; i  
 13394 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 13395 % U+007B LEFT CURLY BRACKET; braceleft  
 13396 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 13397 % U+007C VERTICAL LINE; \*bar, verticalbar  
 13398 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 13399 % U+007D RIGHT CURLY BRACKET; braceright  
 13400 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 13401 % U+007E TILDE; asciitilde  
 13402 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 13403 % U+2022 BULLET; bullet  
 13404 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 13405 % U+2020 DAGGER; dagger  
 13406 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 13407 % U+2021 DOUBLE DAGGER; daggerdbl  
 13408 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 13409 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 13410 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 13411 % U+2014 EM DASH; emdash  
 13412 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 13413 % U+2013 EN DASH; endash  
 13414 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 13415 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 13416 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 13417 % U+2044 FRACTION SLASH; fraction  
 13418 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 13419 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 13420 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039  
 13421 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 lingright  
 13422 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A  
 13423 % U+2212 MINUS SIGN; minus  
 13424 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
 13425 % U+2030 PER MILLE SIGN; perthousand  
 13426 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
 13427 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 13428 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
 13429 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 13430 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
 13431 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 13432 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
 13433 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 13434 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
 13435 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 13436 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
 13437 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 13438 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
 13439 % U+2122 TRADE MARK SIGN; trademark



13440 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
13441 % U+FB01 LATIN SMALL LIGATURE FI; fi  
13442 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
13443 % U+FB02 LATIN SMALL LIGATURE FL; fl  
13444 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
13445 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
13446 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
13447 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
13448 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
13449 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
13450 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
13451 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
13452 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178  
13453 \DeclareTextCommand{\IJ}{PD1}{\230}  
13454 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
13455 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
13456 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
13457 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
13458 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
13459 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
13460 % U+0153 LATIN SMALL LIGATURE OE; oe  
13461 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
13462 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
13463 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
13464 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
13465 \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.

13466 % U+20AC EURO SIGN; \*Euro, euro  
13467 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
13468 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
13469 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
13470 % U+00A2 CENT SIGN; cent  
13471 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
13472 % U+00A3 POUND SIGN; sterling  
13473 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
13474 % U+00A4 CURRENCY SIGN; currency  
13475 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
13476 % U+00A5 YEN SIGN; yen  
13477 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
13478 % U+00A6 BROKEN BAR; brokenbar  
13479 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
13480 % U+00A7 SECTION SIGN; section  
13481 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
13482 % U+00A8 DIAERESIS; dieresis  
13483 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
13484 % U+00A9 COPYRIGHT SIGN; copyright  
13485 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
13486 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
13487 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
13488 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motleft  
13489 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
13490 % U+00AC NOT SIGN; logicalnot  
13491 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
13492 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not

No glyph \255 in PDFDocEncoding.

13493 % U+00AE REGISTERED SIGN; registered  
 13494 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 13495 % U+00AF MACRON; \*macron, overscore  
 13496 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 13497 % U+00B0 DEGREE SIGN; degree  
 13498 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 13499 % U+00B1 PLUS-MINUS SIGN; plusminus  
 13500 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 13501 % U+00B2 SUPERSCRIFT TWO; twosuperior  
 13502 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2  
 13503 % U+00B3 SUPERSCRIFT THREE; threesuperior  
 13504 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3  
 13505 % U+00B4 ACUTE ACCENT; acute  
 13506 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
 13507 % U+00B5 MICRO SIGN; mu, mu1  
 13508 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
 13509 % U+00B6 PILCROW SIGN; paragraph  
 13510 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
 13511 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 13512 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
 13513 % U+00B8 CEDILLA; cedilla  
 13514 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
 13515 % U+00B9 SUPERSCRIFT ONE; onesuperior  
 13516 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
 13517 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 13518 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
 13519 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motright  
 13520 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
 13521 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 13522 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
 13523 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 13524 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
 13525 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 13526 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
 13527 % U+00BF INVERTED QUESTION MARK; questiondown  
 13528 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
 13529 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 13530 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
 13531 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
 13532 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
 13533 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
 13534 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
 13535 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
 13536 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
 13537 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
 13538 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
 13539 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
 13540 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
 13541 % U+00C6 LATIN CAPITAL LETTER AE; AE  
 13542 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
 13543 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
 13544 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
 13545 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
 13546 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
 13547 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
 13548 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9

13549 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
 13550 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
 13551 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
 13552 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
 13553 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
 13554 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
 13555 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
 13556 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
 13557 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
 13558 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
 13559 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
 13560 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
 13561 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
 13562 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
 13563 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
 13564 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
 13565 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
 13566 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
 13567 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
 13568 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
 13569 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
 13570 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
 13571 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
 13572 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
 13573 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
 13574 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
 13575 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
 13576 % U+00D7 MULTIPLICATION SIGN; multiply  
 13577 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
 13578 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
 13579 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
 13580 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
 13581 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
 13582 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
 13583 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
 13584 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
 13585 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
 13586 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
 13587 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
 13588 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
 13589 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
 13590 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
 13591 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
 13592 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
 13593 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
 13594 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
 13595 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
 13596 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
 13597 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
 13598 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
 13599 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
 13600 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
 13601 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
 13602 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
 13603 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
 13604 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
 13605 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5

13606 % U+00E6 LATIN SMALL LETTER AE; ae  
13607 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
13608 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
13609 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
13610 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
13611 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
13612 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
13613 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
13614 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
13615 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
13616 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
13617 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
13618 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
13619 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
13620 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
13621 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
13622 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
13623 \DeclareTextCompositeCommand{\`}{PD1}{i}{\355}% U+00ED  
13624 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
13625 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
13626 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
13627 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
13628 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
13629 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
13630 % U+00F0 LATIN SMALL LETTER ETH; eth  
13631 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
13632 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
13633 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
13634 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
13635 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
13636 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
13637 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
13638 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
13639 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
13640 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
13641 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
13642 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
13643 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
13644 % U+00F7 DIVISION SIGN; divide  
13645 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
13646 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
13647 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
13648 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
13649 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9  
13650 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
13651 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA  
13652 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
13653 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB  
13654 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
13655 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC  
13656 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
13657 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD  
13658 % U+00FE LATIN SMALL LETTER THORN; thorn  
13659 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
13660 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
13661 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF  
13662 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

```
13663 \DeclareTextCommand{\SS}{PD1}{SS}
13664 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}
```

Aliases (german.sty)

```
13665 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
13666 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
13667 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
13668 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
13669 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
13670 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
13671 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
13672 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}
```

Aliases (math names)

```
13673 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
13674 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
13675 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
13676 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
13677 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
13678 \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).

```
13679 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
13680 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
13681 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
13682 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
13683 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
13684 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
13685 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
13686 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
13687 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
13688 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
13689 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
13690 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
13691 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
13692 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
13693 </pd1enc>
```

## 50.2 PU encoding

```
13694 <*puenc>
13695 \DeclareFontEncoding{PU}{-}{-}
```

### 50.2.1 NFSS2 accents

```
13696 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
13697 \DeclareTextCommand{\'}{PU}[1]{\#1\83\000}% U+0300
13698 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
13699 \DeclareTextCommand{\'}{PU}[1]{\#1\83\001}% U+0301
13700 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
13701 \DeclareTextCommand{\^}{PU}[1]{\#1\83\002}% U+0302
13702 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
13703 \DeclareTextCommand{\~}{PU}[1]{\#1\83\003}% U+0303
13704 % U+0304 COMBINING MACRON; macroncmb
13705 \DeclareTextCommand{\=}{PU}[1]{\#1\83\004}% U+0304
13706 % U+0306 COMBINING BREVE; brevecmb
13707 \DeclareTextCommand{\u}{PU}[1]{\#1\83\006}% U+0306
```

13708 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306  
 13709 % U+0307 COMBINING DOT ABOVE; dotaccentcmb  
 13710 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307  
 13711 % U+0308 COMBINING DIAERESIS; dieresiscmb  
 13712 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308  
 13713 % U+030A COMBINING RING ABOVE; ringcmb  
 13714 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A  
 13715 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb  
 13716 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B  
 13717 % U+030C COMBINING CARON; caroncmb  
 13718 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C  
 13719 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 13720 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F  
 13721 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F  
 13722 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 13723 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311  
 13724 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
 13725 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323  
 13726 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 13727 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331  
 13728 % U+0327 COMBINING CEDILLA; cedillacmb  
 13729 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327  
 13730 % U+0328 COMBINING OGONEK; ogonekcmb  
 13731 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328  
 13732 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 13733 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361  
 13734 % U+20DD COMBINING ENCLOSING CIRCLE  
 13735 \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.

13736 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}  
 13737 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}  
 13738 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}  
 13739 \DeclareTextCompositeCommand{\-}{PU}{\@empty}{\texttilde}  
 13740 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}  
 13741 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}  
 13742 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}  
 13743 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}  
 13744 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}  
 13745 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}  
 13746 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}  
 13747 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}  
 13748 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}  
 13749 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}  
 13750 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}  
 13751 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}  
 13752 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}  
 13753 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}  
 13754 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}  
 13755 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}  
 13756 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}  
 13757 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}  
 13758 \DeclareTextCompositeCommand{\-}{PU}{\ }{\texttilde}  
 13759 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}  
 13760 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}  
 13761 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}  
 13762 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}

```

13763 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
13764 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
13765 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
13766 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
13767 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
13768 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
13769 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
13770 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
13771 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
13772 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
13773 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

13774 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
13775 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
13776 \DeclareTextCommand{\capitalgrave}{PU}[1]{\'{#1}}
13777 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
13778 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
13779 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
13780 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\\"{#1}}
13781 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
13782 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
13783 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
13784 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
13785 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
13786 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
13787 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
13788 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

## 50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

13789 % U+0009 (CHARACTER TABULATION)
13790 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
13791 % U+000A (LINE FEED)
13792 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
13793 % U+000D (CARRIAGE RETURN)
13794 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

13795 % U+0022 QUOTATION MARK; quotedbl
13796 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
13797 % U+0023 NUMBER SIGN; numbersign
13798 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
13799 % U+0024 DOLLAR SIGN; dollar
13800 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
13801 % U+0025 PERCENT SIGN; percent
13802 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
13803 % U+0026 AMPERSAND; ampersand
13804 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
13805 % U+0027 APOSTROPHE; quotesingle
13806 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
13807 % U+0028 LEFT PARENTHESIS; parenleft
13808 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
13809 % U+0029 RIGHT PARENTHESIS; parenright
13810 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
13811 % U+002A ASTERISK; asterisk
13812 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A (?)

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\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  
 13813 % U+003C LESS-THAN SIGN; less  
 13814 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 13815 % U+003E GREATER-THAN SIGN; greater  
 13816 \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  
 13817 % U+005C REVERSE SOLIDUS; backslash  
 13818 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 13819 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 13820 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 13821 % U+005F LOW LINE; underscore  
 13822 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 13823 % U+0060 GRAVE ACCENT; grave  
 13824 \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  
 13825 % U+0069 LATIN SMALL LETTER I; i  
 13826 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069  
 13827 \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  
 13828 % U+007B LEFT CURLY BRACKET; braceleft  
 13829 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 13830 % U+007C VERTICAL LINE; \*bar, verticalbar  
 13831 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 13832 % U+007D RIGHT CURLY BRACKET; braceright  
 13833 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 13834 % U+007E TILDE; asciitilde  
 13835 \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  
 13836 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown



13837 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 13838 % U+00A2 CENT SIGN; cent  
 13839 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 13840 % U+00A3 POUND SIGN; sterling  
 13841 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 13842 % U+00A4 CURRENCY SIGN; currency  
 13843 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 13844 % U+00A5 YEN SIGN; yen  
 13845 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 13846 % U+00A6 BROKEN BAR; brokenbar  
 13847 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 13848 % U+00A7 SECTION SIGN; section  
 13849 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 13850 % U+00A8 DIAERESIS; diaeresis  
 13851 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 13852 % U+00A9 COPYRIGHT SIGN; copyright  
 13853 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9  
 13854 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 13855 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 13856 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motleft  
 13857 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 13858 % U+00AC NOT SIGN; logicalnot  
 13859 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 13860 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
 13861 % U+00AE REGISTERED SIGN; registered  
 13862 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 13863 % U+00AF MACRON; \*macron, overscore  
 13864 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 13865 % U+00B0 DEGREE SIGN; degree  
 13866 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 13867 % U+00B1 PLUS-MINUS SIGN; plusminus  
 13868 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 13869 % U+00B2 SUPERSCRIFT TWO; twosuperior  
 13870 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
 13871 % U+00B3 SUPERSCRIFT THREE; threesuperior  
 13872 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3  
 13873 % U+00B4 ACUTE ACCENT; acute  
 13874 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
 13875 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
 13876 % U+00B5 MICRO SIGN; mu, mu1  
 13877 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
 13878 % U+00B6 PILCROW SIGN; paragraph  
 13879 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
 13880 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 13881 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
 13882 % U+00B8 CEDILLA; cedilla  
 13883 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
 13884 % U+00B9 SUPERSCRIFT ONE; onesuperior  
 13885 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
 13886 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 13887 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
 13888 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motright  
 13889 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
 13890 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter

13891 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
13892 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
13893 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
13894 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
13895 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
13896 % U+00BF INVERTED QUESTION MARK; questiondown  
13897 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
13898 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
13899 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
13900 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
13901 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
13902 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
13903 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
13904 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
13905 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
13906 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
13907 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
13908 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
13909 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
13910 % U+00C6 LATIN CAPITAL LETTER AE; AE  
13911 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
13912 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
13913 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
13914 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
13915 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
13916 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
13917 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
13918 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
13919 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
13920 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
13921 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
13922 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
13923 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
13924 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
13925 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
13926 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
13927 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
13928 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
13929 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
13930 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
13931 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
13932 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
13933 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
13934 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
13935 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
13936 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
13937 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
13938 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
13939 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
13940 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
13941 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
13942 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
13943 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
13944 % U+00D7 MULTIPLICATION SIGN; multiply  
13945 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
13946 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
13947 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8

13948 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
13949 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9  
13950 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
13951 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
13952 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
13953 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\333}% U+00DB  
13954 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
13955 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\334}% U+00DC  
13956 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
13957 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
13958 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
13959 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
13960 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
13961 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
13962 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
13963 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0  
13964 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
13965 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
13966 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
13967 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\342}% U+00E2  
13968 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
13969 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\343}% U+00E3  
13970 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
13971 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\344}% U+00E4  
13972 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
13973 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
13974 % U+00E6 LATIN SMALL LETTER AE; ae  
13975 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
13976 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
13977 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
13978 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
13979 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
13980 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
13981 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
13982 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
13983 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\352}% U+00EA  
13984 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
13985 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\353}% U+00EB  
13986 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
13987 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
13988 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
13989 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
13990 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
13991 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
13992 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
13993 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\356}% U+00EE  
13994 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\356}% U+00EE  
13995 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
13996 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\357}% U+00EF  
13997 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\357}% U+00EF  
13998 % U+00F0 LATIN SMALL LETTER ETH; eth  
13999 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
14000 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
14001 \DeclareTextCompositeCommand{\'}{PU}{n}{\80\361}% U+00F1  
14002 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
14003 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
14004 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute

14005 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 14006 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 14007 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\364}% U+00F4  
 14008 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 14009 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 14010 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 14011 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
 14012 % U+00F7 DIVISION SIGN; divide  
 14013 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 14014 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 14015 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 14016 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 14017 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 14018 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 14019 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 14020 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 14021 \DeclareTextCompositeCommand{\~}{PU}{u}{\80\373}% U+00FB  
 14022 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 14023 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 14024 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 14025 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 14026 % U+00FE LATIN SMALL LETTER THORN; thorn  
 14027 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 14028 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 14029 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 50.2.4 Latin Extended-A: U+0080 to U+017F

14030 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 14031 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 14032 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 14033 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 14034 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 14035 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 14036 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 14037 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 14038 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 14039 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 14040 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 14041 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
 14042 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 14043 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
 14044 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 14045 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
 14046 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 14047 \DeclareTextCompositeCommand{\~}{PU}{C}{\81\010}% U+0108  
 14048 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
 14049 \DeclareTextCompositeCommand{\~}{PU}{c}{\81\011}% U+0109  
 14050 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
 14051 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
 14052 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
 14053 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
 14054 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
 14055 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
 14056 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
 14057 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
 14058 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron

14059 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
14060 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
14061 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
14062 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
14063 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
14064 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
14065 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
14066 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
14067 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
14068 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
14069 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
14070 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
14071 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
14072 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
14073 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
14074 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
14075 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
14076 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
14077 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
14078 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
14079 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
14080 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
14081 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
14082 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
14083 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
14084 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
14085 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
14086 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
14087 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
14088 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
14089 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
14090 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
14091 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
14092 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
14093 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
14094 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
14095 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
14096 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
14097 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
14098 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
14099 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
14100 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
14101 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
14102 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
14103 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
14104 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
14105 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
14106 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
14107 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
14108 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
14109 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127  
14110 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
14111 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
14112 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
14113 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
14114 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129

14115 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
14116 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
14117 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
14118 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
14119 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
14120 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
14121 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
14122 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
14123 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
14124 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
14125 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
14126 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
14127 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
14128 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
14129 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
14130 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
14131 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
14132 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
14133 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
14134 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
14135 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
14136 % U+0133 LATIN SMALL LIGATURE IJ; ij  
14137 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
14138 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
14139 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
14140 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
14141 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
14142 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
14143 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
14144 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
14145 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
14146 \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`.

14147 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
14148 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
14149 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
14150 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
14151 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
14152 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
14153 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
14154 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
14155 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
14156 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
14157 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
14158 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
14159 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
14160 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E

There seems to be no variants of letters ‘L’ and ‘l’ with a dot above (reasonable). Therefore the `\.` accent is reused instead of making a separate accent macro `\textmiddledot`.

14161 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
14162 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
14163 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent

14164 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
14165 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
14166 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
14167 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
14168 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
14169 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
14170 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
14171 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
14172 \DeclareTextCompositeCommand{\' }{PU}{n}{\81\104}% U+0144  
14173 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
14174 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
14175 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
14176 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
14177 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
14178 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
14179 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
14180 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
14181 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
14182 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
14183 % U+014A LATIN CAPITAL LETTER ENG; Eng  
14184 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
14185 % U+014B LATIN SMALL LETTER ENG; eng  
14186 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
14187 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
14188 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
14189 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
14190 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
14191 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
14192 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
14193 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
14194 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
14195 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut  
14196 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
14197 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut  
14198 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
14199 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
14200 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
14201 % U+0153 LATIN SMALL LIGATURE OE; oe  
14202 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
14203 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
14204 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
14205 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
14206 \DeclareTextCompositeCommand{\' }{PU}{r}{\81\125}% U+0155  
14207 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent  
14208 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
14209 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
14210 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
14211 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
14212 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
14213 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
14214 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
14215 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute

14216 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
14217 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
14218 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
14219 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
14220 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
14221 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
14222 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
14223 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
14224 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
14225 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
14226 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
14227 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
14228 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
14229 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
14230 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
14231 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-  
cent  
14232 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
14233 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
14234 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
14235 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
14236 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
14237 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
14238 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
14239 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
14240 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
14241 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
14242 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
14243 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
14244 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
14245 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
14246 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
14247 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
14248 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
14249 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
14250 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
14251 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
14252 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
14253 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
14254 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
14255 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
14256 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
14257 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
14258 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
14259 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblac-  
cute, Uhungarumlaut  
14260 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
14261 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhun-  
garumlaut  
14262 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
14263 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
14264 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
14265 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
14266 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
14267 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
14268 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
14269 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex



14270 \DeclareTextCompositeCommand{\~}{PU}{w}{\81\165}% U+0175  
 14271 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
 14272 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 14273 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 14274 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 14275 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 14276 \DeclareTextCompositeCommand{"}{PU}{Y}{\81\170}% U+0178  
 14277 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 14278 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
 14279 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 14280 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 14281 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 14282 \DeclareTextCompositeCommand{.}{PU}{Z}{\81\173}% U+017B  
 14283 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 14284 \DeclareTextCompositeCommand{.}{PU}{z}{\81\174}% U+017C  
 14285 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 14286 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 14287 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 14288 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 14289 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 14290 \DeclareTextCommand{\textlong}{PU}{\81\177}% U+017F

## 50.2.5 Latin Extended-B: U+0180 to U+024F

14291 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 14292 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 14293 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 14294 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 14295 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 14296 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 14297 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 14298 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 14299 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 14300 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 14301 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 14302 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 14303 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 14304 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 14305 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 14306 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 14307 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 14308 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 14309 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 14310 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 14311 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 14312 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 14313 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
 14314 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
 14315 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
 14316 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
 14317 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
 14318 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
 14319 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
 14320 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
 14321 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
 14322 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
 14323 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
 14324 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek

14325 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
14326 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
14327 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
14328 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
14329 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
14330 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
14331 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
14332 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
14333 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
14334 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8  
14335 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
14336 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9  
14337 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
14338 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
14339 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
14340 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
14341 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslashacute, Ostrokeacute  
14342 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
14343 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslashacute, ostrokeacute  
14344 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
14345 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
14346 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
14347 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
14348 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
14349 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
14350 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
14351 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
14352 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
14353 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
14354 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
14355 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
14356 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
14357 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
14358 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
14359 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
14360 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
14361 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
14362 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
14363 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
14364 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
14365 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
14366 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
14367 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
14368 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
14369 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
14370 % U+021E LATIN CAPITAL LETTER H WITH CARON  
14371 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
14372 % U+021F LATIN SMALL LETTER H WITH CARON  
14373 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
14374 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
14375 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
14376 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
14377 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
14378 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
14379 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228

14380 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
14381 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
14382 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
14383 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
14384 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
14385 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
14386 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
14387 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
14388 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
14389 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
14390 % U+0237 LATIN SMALL LETTER DOTLESS J  
14391 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

## 50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

14392 % U+02C7 CARON; caron  
14393 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
14394 % U+02D8 BREVE; breve  
14395 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
14396 % U+02D9 DOT ABOVE; dotaccent  
14397 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
14398 % U+02DA RING ABOVE; ring  
14399 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
14400 % U+02DB OGONEK; ogonek  
14401 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
14402 % U+02DC SMALL TILDE; ilde, \*tilde  
14403 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
14404 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
14405 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
14406 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
14407 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
14408 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
14409 % U+02F7 MODIFIER LETTER LOW TILDE  
14410 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

## 50.2.7 Combining Diacritical Marks: U+0300 to U+036F

14411 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
14412 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
14413 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
14414 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
14415 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcmb  
14416 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
14417 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
14418 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
14419 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
14420 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

## 50.2.8 Greek and Coptic: U+0370 to U+03FF

14421 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
14422 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
14423 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
14424 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
14425 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos  
14426 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
14427 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
14428 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
14429 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
14430 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389

14431 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
14432 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
14433 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-  
crontonos  
14434 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
14435 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos  
14436 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
14437 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
14438 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
14439 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; io-  
tadiesisistonos  
14440 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390  
14441 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
14442 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
14443 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
14444 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
14445 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
14446 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
14447 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta  
14448 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
14449 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
14450 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
14451 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
14452 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
14453 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
14454 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
14455 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
14456 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
14457 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
14458 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
14459 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
14460 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
14461 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
14462 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
14463 % U+039C GREEK CAPITAL LETTER MU; Mu  
14464 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
14465 % U+039D GREEK CAPITAL LETTER NU; Nu  
14466 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
14467 % U+039E GREEK CAPITAL LETTER XI; Xi  
14468 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E  
14469 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
14470 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
14471 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
14472 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
14473 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
14474 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
14475 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
14476 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
14477 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
14478 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
14479 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
14480 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
14481 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
14482 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
14483 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
14484 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
14485 % U+03A8 GREEK CAPITAL LETTER PSI; Psi

14486 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
14487 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
14488 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
14489 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
14490 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
14491 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA  
14492 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-  
silondieresis  
14493 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
14494 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphonos  
14495 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC  
14496 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononon  
14497 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD  
14498 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etatonos  
14499 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE  
14500 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatonos  
14501 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF  
14502 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-  
silondieresis  
14503 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0  
14504 % U+03B1 GREEK SMALL LETTER ALPHA; alpha  
14505 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1  
14506 % U+03B2 GREEK SMALL LETTER BETA; beta  
14507 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
14508 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
14509 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
14510 % U+03B4 GREEK SMALL LETTER DELTA; delta  
14511 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
14512 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
14513 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
14514 % U+03B6 GREEK SMALL LETTER ZETA; zeta  
14515 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
14516 % U+03B7 GREEK SMALL LETTER ETA; eta  
14517 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
14518 % U+03B8 GREEK SMALL LETTER THETA; theta  
14519 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
14520 % U+03B9 GREEK SMALL LETTER IOTA; iota  
14521 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9  
14522 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
14523 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA  
14524 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
14525 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
14526 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
14527 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
14528 % U+03BD GREEK SMALL LETTER NU; nu  
14529 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD  
14530 % U+03BE GREEK SMALL LETTER XI; xi  
14531 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
14532 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
14533 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
14534 % U+03C0 GREEK SMALL LETTER PI; pi  
14535 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
14536 % U+03C1 GREEK SMALL LETTER RHO; rho  
14537 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
14538 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
14539 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
14540 % U+03C3 GREEK SMALL LETTER SIGMA; sigma

14541 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3  
 14542 % U+03C4 GREEK SMALL LETTER TAU; tau  
 14543 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4  
 14544 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon  
 14545 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5  
 14546 % U+03C6 GREEK SMALL LETTER PHI; phi  
 14547 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6  
 14548 % U+03C7 GREEK SMALL LETTER CHI; chi  
 14549 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7  
 14550 % U+03C8 GREEK SMALL LETTER PSI; psi  
 14551 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8  
 14552 % U+03C9 GREEK SMALL LETTER OMEGA; omega  
 14553 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9  
 14554 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis  
 14555 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA  
 14556 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-  
 silondieresis  
 14557 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB  
 14558 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
 14559 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC  
 14560 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
 14561 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD  
 14562 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD  
 14563 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
 14564 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE  
 14565 % U+03DA GREEK LETTER STIGMA; Stigmagreek  
 14566 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA  
 14567 % U+03DB GREEK SMALL LETTER STIGMA  
 14568 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB  
 14569 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
 14570 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC  
 14571 % U+03DD GREEK SMALL LETTER DIGAMMA  
 14572 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
 14573 % U+03DE GREEK LETTER KOPPA; Koppagreek  
 14574 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE  
 14575 % U+03DF GREEK SMALL LETTER KOPPA  
 14576 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF  
 14577 % U+03E0 GREEK LETTER SAMPI; Sampigreek  
 14578 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0  
 14579 % U+03E1 GREEK SMALL LETTER SAMPI  
 14580 \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.

14581 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE  
 14582 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400  
 14583 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, \*afii10023  
 14584 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401  
 14585 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???  
 14586 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afii10051  
 14587 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
 14588 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
 14589 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403  
 14590 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, \*afii10053  
 14591 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
 14592 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054

14593 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
14594 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyril-  
lic, \*afii10055  
14595 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
14596 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
14597 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
14598 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407  
14599 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
14600 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
14601 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
14602 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
14603 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
14604 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
14605 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
14606 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
14607 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
14608 \DeclareTextCompositeCommand{'}{PU}{\CYRK}{\84\014}% U+040C  
14609 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
14610 \DeclareTextCompositeCommand{'}{PU}{\CYRI}{\84\015}% U+040D  
14611 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
14612 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
14613 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
14614 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
14615 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
14616 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
14617 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
14618 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
14619 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
14620 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
14621 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
14622 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
14623 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
14624 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
14625 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
14626 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
14627 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
14628 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
14629 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
14630 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
14631 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
14632 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
14633 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
14634 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
14635 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
14636 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
14637 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
14638 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
14639 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
14640 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
14641 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
14642 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
14643 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
14644 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
14645 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
14646 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
14647 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
14648 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F

14649 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
14650 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
14651 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
14652 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
14653 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
14654 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
14655 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
14656 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
14657 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
14658 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
14659 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
14660 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
14661 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
14662 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
14663 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
14664 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
14665 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
14666 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
14667 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
14668 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
14669 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, \*afii10044  
14670 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
14671 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
14672 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
14673 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, \*afii10046  
14674 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
14675 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
14676 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
14677 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
14678 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
14679 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
14680 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
14681 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
14682 \DeclareTextCommand{\cyr a}{PU}{\84\060}% U+0430  
14683 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
14684 \DeclareTextCommand{\cyr b}{PU}{\84\061}% U+0431  
14685 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
14686 \DeclareTextCommand{\cyr v}{PU}{\84\062}% U+0432  
14687 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
14688 \DeclareTextCommand{\cyr g}{PU}{\84\063}% U+0433  
14689 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
14690 \DeclareTextCommand{\cyr d}{PU}{\84\064}% U+0434  
14691 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
14692 \DeclareTextCommand{\cyr e}{PU}{\84\065}% U+0435  
14693 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhacyrillic  
14694 \DeclareTextCommand{\cyr zh}{PU}{\84\066}% U+0436  
14695 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
14696 \DeclareTextCommand{\cyr z}{PU}{\84\067}% U+0437  
14697 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
14698 \DeclareTextCommand{\cyr i}{PU}{\84\070}% U+0438  
14699 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
14700 \DeclareTextCommand{\cyr ishrt}{PU}{\84\071}% U+0439  
14701 \DeclareTextCompositeCommand{\U}{PU}{\cyr i}{\84\071}% U+0439  
14702 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
14703 \DeclareTextCommand{\cyr k}{PU}{\84\072}% U+043A  
14704 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
14705 \DeclareTextCommand{\cyr l}{PU}{\84\073}% U+043B



14706 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
14707 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
14708 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
14709 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
14710 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
14711 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
14712 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
14713 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
14714 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
14715 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
14716 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
14717 \DeclareTextCommand{\cyr{s}}{PU}{\84\101}% U+0441  
14718 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
14719 \DeclareTextCommand{\cyr{t}}{PU}{\84\102}% U+0442  
14720 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
14721 \DeclareTextCommand{\cyr{u}}{PU}{\84\103}% U+0443  
14722 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
14723 \DeclareTextCommand{\cyr{f}}{PU}{\84\104}% U+0444  
14724 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
14725 \DeclareTextCommand{\cyr{h}}{PU}{\84\105}% U+0445  
14726 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
14727 \DeclareTextCommand{\cyr{c}}{PU}{\84\106}% U+0446  
14728 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
14729 \DeclareTextCommand{\cyr{ch}}{PU}{\84\107}% U+0447  
14730 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
14731 \DeclareTextCommand{\cyr{sh}}{PU}{\84\110}% U+0448  
14732 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
14733 \DeclareTextCommand{\cyr{shch}}{PU}{\84\111}% U+0449  
14734 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
14735 \DeclareTextCommand{\cyr{hrdsn}}{PU}{\84\112}% U+044A  
14736 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
14737 \DeclareTextCommand{\cyr{ery}}{PU}{\84\113}% U+044B  
14738 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
14739 \DeclareTextCommand{\cyr{sftsn}}{PU}{\84\114}% U+044C  
14740 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
14741 \DeclareTextCommand{\cyr{erev}}{PU}{\84\115}% U+044D  
14742 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
14743 \DeclareTextCommand{\cyr{yu}}{PU}{\84\116}% U+044E  
14744 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
14745 \DeclareTextCommand{\cyr{ya}}{PU}{\84\117}% U+044F  
14746 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
14747 \DeclareTextCompositeCommand{\'}{PU}{\cyr{e}}{\84\120}% U+0450  
14748 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
14749 \DeclareTextCommand{\cyr{yo}}{PU}{\84\121}% U+0451  
14750 \DeclareTextCompositeCommand{\"}{PU}{\cyr{e}}{\84\121}% U+0451  
14751 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
14752 \DeclareTextCommand{\cyr{dje}}{PU}{\84\122}% U+0452  
14753 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
14754 \DeclareTextCompositeCommand{\'}{PU}{\cyr{g}}{\84\123}% U+0453  
14755 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
14756 \DeclareTextCommand{\cyr{ie}}{PU}{\84\124}% U+0454  
14757 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
14758 \DeclareTextCommand{\cyr{dze}}{PU}{\84\125}% U+0455  
14759 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyril-  
lic  
14760 \DeclareTextCommand{\cyr{i}}{PU}{\84\126}% U+0456  
14761 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic

14762 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
14763 \DeclareTextCompositeCommand{"}{PU}{\cyrii}{\84\127}% U+0457  
14764 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
14765 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
14766 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
14767 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
14768 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
14769 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
14770 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
14771 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
14772 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
14773 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
14774 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
14775 \DeclareTextCompositeCommand{\`}{PU}{\cyri}{\84\135}% U+045D  
14776 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
14777 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
14778 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
14779 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
14780 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
14781 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
14782 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
14783 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
14784 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
14785 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
14786 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
14787 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
14788 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
14789 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
14790 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
14791 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
14792 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
14793 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
14794 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
14795 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
14796 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
14797 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleio-  
tifiedcyrillic  
14798 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
14799 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-  
fiedcyrillic  
14800 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
14801 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
14802 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
14803 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
14804 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
14805 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
cyrillic  
14806 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
14807 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-  
lic  
14808 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
14809 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
14810 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
14811 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
14812 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
14813 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
14814 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470

14815 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
 14816 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
 14817 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
 14818 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
 14819 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
 14820 \DeclareTextCommand{\cyrfit a}{PU}{\84\163}% U+0473  
 14821 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
 14822 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
 14823 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
 14824 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
 14825 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
 CENT; Izhitsadblgravecyrillic  
 14826 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
 14827 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
 CENT; izhitsadblgravecyrillic  
 14828 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 14829 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 14830 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 14831 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 14832 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 14833 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-  
 lic  
 14834 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 14835 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 14836 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 14837 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-  
 cyrillic  
 14838 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 14839 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-  
 cyrillic  
 14840 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 14841 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 14842 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 14843 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 14844 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 14845 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 14846 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 14847 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 14848 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 14849 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 14850 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyril-  
 liccmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumata-  
 cyrilliccmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyril-  
 liccmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 14851 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 14852 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 14853 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 14854 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 14855 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN

14856 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
14857 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
14858 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
14859 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
14860 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
14861 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
14862 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
14863 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-  
cyrillic, \*afii10050  
14864 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
14865 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, ghe-  
upturncyrillic  
14866 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
14867 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-  
cyrillic  
14868 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
14869 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
14870 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
14871 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemid-  
dlehookcyrillic  
14872 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
14873 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemid-  
dlehookcyrillic  
14874 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
14875 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescen-  
dercyrillic  
14876 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
14877 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescen-  
dercyrillic  
14878 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
14879 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-  
dercyrillic  
14880 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
14881 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
14882 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-  
cyrillic  
14883 \DeclareTextCommand{\cyrzdesc}{PU}{\84\231}% U+0499  
14884 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
14885 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-  
dercyrillic  
14886 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
14887 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescender-  
cyrillic  
14888 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
14889 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-  
ticalstrokecyrillic  
14890 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
14891 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-  
ticalstrokecyrillic  
14892 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
14893 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
14894 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
14895 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
14896 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
14897 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
14898 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
14899 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic

14900 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
14901 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
14902 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
14903 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic  
14904 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
14905 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
14906 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
14907 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
14908 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
14909 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
14910 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
14911 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
14912 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
14913 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
14914 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
14915 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
14916 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
14917 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
14918 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
14919 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
14920 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
14921 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
14922 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB  
14923 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
14924 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
14925 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
14926 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
14927 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
14928 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
14929 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
14930 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF  
14931 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
14932 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
14933 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic  
14934 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1  
14935 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescendercyrillic  
14936 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
14937 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
14938 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
14939 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
14940 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
14941 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
14942 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5

14943 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic  
14944 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
14945 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
14946 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
14947 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-  
verticalstrokecyrillic  
14948 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
14949 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-  
verticalstrokecyrillic  
14950 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
14951 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
14952 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
14953 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
14954 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
14955 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-  
cyrillic  
14956 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
14957 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-  
lic  
14958 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
14959 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; Chedescenderabkhasiancyrillic  
14960 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
14961 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
14962 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; chedescenderabkhasiancyrillic  
14963 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
14964 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
14965 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
14966 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
14967 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
14968 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
14969 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
14970 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
14971 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
14972 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
14973 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
14974 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
14975 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
14976 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
14977 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
14978 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
14979 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
14980 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
14981 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
14982 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
14983 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-  
cyrillic  
14984 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
14985 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
cyrillic  
14986 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
14987 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
14988 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
14989 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL

14990 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
 14991 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevacyrillic  
 14992 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
 14993 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevacyrillic  
 14994 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
 14995 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic  
 14996 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2  
 14997 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
 14998 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3  
 14999 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
 15000 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
 15001 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
 15002 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
 15003 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevacyrillic  
 15004 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
 15005 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevacyrillic  
 15006 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
 15007 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
 15008 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
 15009 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
 15010 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
 15011 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-  
 siscyrillic  
 15012 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
 15013 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-  
 siscyrillic  
 15014 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB  
 15015 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-  
 siscyrillic  
 15016 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC  
 15017 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic  
 15018 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD  
 15019 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic  
 15020 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE  
 15021 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic  
 15022 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
 15023 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-  
 cyrillic  
 15024 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
 15025 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
 15026 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
 15027 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
 15028 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2  
 15029 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
 15030 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3  
 15031 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
 15032 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
 15033 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
 15034 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
 15035 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
 15036 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
 15037 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic

15038 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
15039 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
15040 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
15041 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
15042 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
15043 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERE-  
SIS; Obarreddieresiscyrillic  
15044 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
15045 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarred-  
dieresiscyrillic  
15046 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
15047 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
15048 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
15049 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
15050 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
15051 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
15052 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE  
15053 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
15054 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF  
15055 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
15056 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
15057 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
15058 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
15059 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-  
garumlautcyrillic  
15060 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
15061 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-  
garumlautcyrillic  
15062 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
15063 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-  
siscyrillic  
15064 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
15065 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chediere-  
siscyrillic  
15066 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
15067 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
15068 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
15069 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
15070 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
15071 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-  
siscyrillic  
15072 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
15073 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-  
siscyrillic  
15074 \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  
15075 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
15076 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
15077 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
15078 \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



15079 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 15080 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

## 50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

15081 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 15082 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02  
 15083 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 15084 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03  
 15085 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 15086 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
 15087 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 15088 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
 15089 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 15090 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
 15091 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 15092 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
 15093 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
 15094 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
 15095 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
 15096 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
 15097 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
 15098 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
 15099 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
 15100 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
 15101 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
 15102 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
 15103 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
 15104 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
 15105 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
 15106 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
 15107 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
 15108 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
 15109 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
 15110 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
 15111 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
 15112 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
 15113 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
 15114 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26  
 15115 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
 15116 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27  
 15117 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
 15118 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
 15119 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
 15120 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
 15121 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
 15122 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
 15123 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
 15124 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
 15125 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
 15126 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
 15127 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
 15128 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
 15129 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
 15130 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
 15131 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
 15132 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
 15133 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute

15134 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E  
15135 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
15136 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F  
15137 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
15138 \DeclareTextCompositeCommand{.}{PU}{M}{\9036\100}% U+1E40  
15139 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
15140 \DeclareTextCompositeCommand{.}{PU}{m}{\9036\101}% U+1E41  
15141 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
15142 \DeclareTextCompositeCommand{.}{PU}{N}{\9036\104}% U+1E44  
15143 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
15144 \DeclareTextCompositeCommand{.}{PU}{n}{\9036\105}% U+1E45  
15145 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
15146 \DeclareTextCompositeCommand{b}{PU}{N}{\9036\110}% U+1E48  
15147 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
15148 \DeclareTextCompositeCommand{b}{PU}{n}{\9036\111}% U+1E49  
15149 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
15150 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54  
15151 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
15152 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55  
15153 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
15154 \DeclareTextCompositeCommand{.}{PU}{P}{\9036\126}% U+1E56  
15155 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
15156 \DeclareTextCompositeCommand{.}{PU}{p}{\9036\127}% U+1E57  
15157 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
15158 \DeclareTextCompositeCommand{.}{PU}{R}{\9036\130}% U+1E58  
15159 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
15160 \DeclareTextCompositeCommand{.}{PU}{r}{\9036\131}% U+1E59  
15161 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
15162 \DeclareTextCompositeCommand{b}{PU}{R}{\9036\136}% U+1E5E  
15163 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
15164 \DeclareTextCompositeCommand{b}{PU}{r}{\9036\137}% U+1E5F  
15165 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
15166 \DeclareTextCompositeCommand{.}{PU}{S}{\9036\140}% U+1E60  
15167 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
15168 \DeclareTextCompositeCommand{.}{PU}{s}{\9036\141}% U+1E61  
15169 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
15170 \DeclareTextCompositeCommand{b}{PU}{T}{\9036\156}% U+1E6E  
15171 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
15172 \DeclareTextCompositeCommand{b}{PU}{t}{\9036\157}% U+1E6F  
15173 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
15174 \DeclareTextCompositeCommand{~}{PU}{V}{\9036\174}% U+1E7C  
15175 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
15176 \DeclareTextCompositeCommand{~}{PU}{v}{\9036\175}% U+1E7D  
15177 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
15178 \DeclareTextCompositeCommand{'}{PU}{W}{\9036\200}% U+1E80  
15179 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
15180 \DeclareTextCompositeCommand{'}{PU}{w}{\9036\201}% U+1E81  
15181 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
15182 \DeclareTextCompositeCommand{'}{PU}{W}{\9036\202}% U+1E82  
15183 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
15184 \DeclareTextCompositeCommand{'}{PU}{w}{\9036\203}% U+1E83  
15185 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
15186 \DeclareTextCompositeCommand{"}{PU}{W}{\9036\204}% U+1E84  
15187 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
15188 \DeclareTextCompositeCommand{"}{PU}{w}{\9036\205}% U+1E85  
15189 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
15190 \DeclareTextCompositeCommand{.}{PU}{W}{\9036\206}% U+1E86

15191 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
 15192 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
 15193 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
 15194 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
 15195 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
 15196 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
 15197 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
 15198 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C  
 15199 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
 15200 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D  
 15201 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
 15202 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
 15203 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
 15204 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
 15205 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
 15206 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
 15207 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
 15208 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
 15209 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
 15210 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
 15211 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
 15212 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
 15213 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
 15214 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
 15215 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
 15216 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97  
 15217 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
 15218 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
 15219 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
 15220 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
 15221 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-  
 cent  
 15222 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
 15223 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
 15224 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 15225 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
 15226 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 15227 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 15228 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
 15229 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 15230 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
 15231 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 15232 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 15233 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 15234 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

## 50.2.12 General Punctuation: U+2000 to U+206F

15235 % U+200C ZERO WIDTH NON-JOINER; \*afi61664, zerowidthnonjoiner  
 15236 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 15237 % U+2013 EN DASH; endash  
 15238 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 15239 % U+2014 EM DASH; emdash  
 15240 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 15241 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 15242 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 15243 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 15244 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018

15245 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 15246 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 15247 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 15248 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 15249 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 15250 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 15251 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 15252 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 15253 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 15254 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 15255 % U+2020 DAGGER; dagger  
 15256 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 15257 % U+2021 DOUBLE DAGGER; daggerdbl  
 15258 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 15259 % U+2022 BULLET; bullet  
 15260 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 15261 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 15262 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 15263 % U+2030 PER MILLE SIGN; perthousand  
 15264 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 15265 % U+2031 PER TEN THOUSAND SIGN  
 15266 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 15267 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 ingleft  
 15268 \DeclareTextCommand{\guilsingleft}{PU}{\9040\071}% U+2039  
 15269 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 ingright  
 15270 \DeclareTextCommand{\guilsingright}{PU}{\9040\072}% U+203A  
 15271 % U+203B REFERENCE MARK; referencemark  
 15272 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 15273 % U+203D INTERROBANG  
 15274 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 15275 % U+2044 FRACTION SLASH; fraction  
 15276 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 15277 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 15278 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 15279 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 15280 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 15281 % U+2052 COMMERCIAL MINUS SIGN  
 15282 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

### 50.2.13 Superscripts and Subscripts: U+2070 to U+209F

15283 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 15284 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
 15285 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 15286 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
 15287 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 15288 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
 15289 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 15290 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
 15291 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 15292 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
 15293 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 15294 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
 15295 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 15296 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
 15297 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior

15298 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
 15299 % U+207B SUPERScript MINUS  
 15300 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
 15301 % U+207C SUPERScript EQUALS SIGN; equalsuperior  
 15302 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}  
 15303 % U+207D SUPERScript LEFT PARENTHESIS; parenleftsuperior  
 15304 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
 15305 % U+207E SUPERScript RIGHT PARENTHESIS; parenrightsuperior  
 15306 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
 15307 % U+207F SUPERScript LATIN SMALL LETTER N; nsuperior  
 15308 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}  
 15309 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 15310 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
 15311 % U+2081 SUBSCRIPT ONE; oneinferior  
 15312 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
 15313 % U+2082 SUBSCRIPT TWO; twoinferior  
 15314 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
 15315 % U+2083 SUBSCRIPT THREE; threeinferior  
 15316 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083  
 15317 % U+2084 SUBSCRIPT FOUR; fourinferior  
 15318 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
 15319 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 15320 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
 15321 % U+2086 SUBSCRIPT SIX; sixinferior  
 15322 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
 15323 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 15324 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
 15325 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 15326 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
 15327 % U+2089 SUBSCRIPT NINE; nineinferior  
 15328 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
 15329 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 15330 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
 15331 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 15332 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

#### 50.2.14 Currency Symbols: U+20A0 to U+20CF

15333 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 15334 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 15335 % U+20A4 LIRA SIGN; afi08941, \*lira  
 15336 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 15337 % U+20A6 NAIRA SIGN  
 15338 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 15339 % U+20A7 PESETA SIGN; peseta  
 15340 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 15341 % U+20A9 WON SIGN; won  
 15342 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 15343 % U+20AB DONG SIGN; dong  
 15344 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 15345 % U+20AC EURO SIGN; \*Euro, euro  
 15346 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 15347 % U+20B1 PESO SIGN  
 15348 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 15349 % U+20B2 GUARANI SIGN  
 15350 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

#### 50.2.15 Letterlike Symbols: U+2100 to U+214F

15351 % U+2103 DEGREE CELSIUS; centigrade  
 15352 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 15353 % U+2116 NUMERO SIGN; \*afi61352, numero  
 15354 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 15355 % U+2117 SOUND RECORDING COPYRIGHT  
 15356 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 15357 % U+211E PRESCRIPTION TAKE; prescription  
 15358 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 15359 % U+2120 SERVICE MARK  
 15360 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 15361 % U+2122 TRADE MARK SIGN; trademark  
 15362 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 15363 % U+2126 OHM SIGN; Ohm, Omega  
 15364 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 15365 % U+2127 INVERTED OHM SIGN  
 15366 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
 15367 % U+212B ANGSTROM SIGN; angstrom  
 15368 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 15369 % U+212E ESTIMATED SYMBOL; estimated  
 15370 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 15371 % U+2135 ALEF SYMBOL; aleph  
 15372 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

#### 50.2.16 Arrows: U+2190 to U+21FF

15373 % U+2190 LEFTWARDS ARROW; arrowleft  
 15374 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
 15375 % U+2191 UPWARDS ARROW; arrowup  
 15376 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
 15377 % U+2192 RIGHTWARDS ARROW; arrowright  
 15378 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192  
 15379 % U+2193 DOWNWARDS ARROW; arrowdown  
 15380 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

#### 50.2.17 Mathematical Operators: U+2200 to U+22FF

15381 % U+2212 MINUS SIGN; minus  
 15382 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
 15383 % U+221A SQUARE ROOT; radical  
 15384 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

#### 50.2.18 Miscellaneous Technical: U+2300 to U+23FF

15385 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
 15386 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
 15387 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
 15388 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

#### 50.2.19 Control Pictures: U+2400 to U+243F

15389 % U+2422 BLANK SYMBOL  
 15390 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 15391 % U+2423 OPEN BOX; blank  
 15392 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

#### 50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

15393 % U+2460 CIRCLED DIGIT ONE; onecircle  
 15394 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 15395 % U+2461 CIRCLED DIGIT TWO; twocircle  
 15396 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 15397 % U+2462 CIRCLED DIGIT THREE; threecircle

15398 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
15399 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
15400 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
15401 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
15402 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
15403 % U+2465 CIRCLED DIGIT SIX; sixcircle  
15404 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
15405 % U+2466 CIRCLED DIGIT SEVEN; sevenscircle  
15406 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
15407 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
15408 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
15409 % U+2468 CIRCLED DIGIT NINE; ninecircle  
15410 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
15411 % U+2469 CIRCLED NUMBER TEN; tencircle  
15412 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
15413 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
15414 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
15415 % U+246B CIRCLED NUMBER TWELVE; twelvencircle  
15416 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
15417 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
15418 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
15419 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
15420 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
15421 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
15422 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
15423 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
15424 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
15425 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
15426 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
15427 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
15428 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
15429 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
15430 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
15431 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
15432 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
15433 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
15434 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
15435 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
15436 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
15437 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
15438 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
15439 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
15440 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
15441 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
15442 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
15443 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
15444 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
15445 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
15446 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
15447 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
15448 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
15449 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
15450 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
15451 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
15452 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
15453 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
15454 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0

15455 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
 15456 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
 15457 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
 15458 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
 15459 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
 15460 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
 15461 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
 15462 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
 15463 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
 15464 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
 15465 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
 15466 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
 15467 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
 15468 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
 15469 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
 15470 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
 15471 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
 15472 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
 15473 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
 15474 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
 15475 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 15476 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
 15477 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 15478 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 15479 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 15480 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 15481 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 15482 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 15483 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 15484 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 15485 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 15486 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 15487 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 15488 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 15489 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 15490 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 15491 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 15492 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 15493 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 15494 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 15495 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 15496 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 15497 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 15498 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 15499 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 15500 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 15501 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 15502 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 15503 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 15504 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 15505 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 15506 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 15507 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 15508 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 15509 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 15510 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 15511 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle



15512 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 15513 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 15514 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 15515 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 15516 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 15517 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 15518 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 15519 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 15520 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 15521 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 15522 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 15523 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 15524 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 15525 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 15526 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 15527 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 15528 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 15529 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 15530 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 15531 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 15532 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 15533 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 15534 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 15535 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 15536 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 15537 % U+24EA CIRCLED DIGIT ZERO  
 15538 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

#### 50.2.21 Box Drawing: U+2500 to U+257F

15539 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
 15540 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6  
 15541 % U+25EF LARGE CIRCLE; largecircle  
 15542 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

#### 50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

15543 % U+266A EIGHTH NOTE; musicalnote  
 15544 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 15545 % U+26AD MARRIAGE SYMBOL  
 15546 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 15547 % U+26AE DIVORCE SYMBOL  
 15548 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

#### 50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

15549 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 15550 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6  
 15551 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 15552 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

#### 50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

15553 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 15554 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 15555 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 15556 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

#### 50.2.25 Miscellaneous

15557 \DeclareTextCommand{\SS}{PU}{SS}

## 50.2.26 Aliases

Aliases (german.sty)

```
15558 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
15559 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
15560 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
15561 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
15562 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
15563 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
15564 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
15565 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}
```

Aliases (math names)

```
15566 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
15567 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
15568 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
15569 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
15570 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
15571 </puenc>
```

## 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```
15572 <*puvnc>

15573 \DeclareTextCommand{\abreve}{PU}{\81\003}
15574 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
15575 \DeclareTextCommand{\dj}{PU}{\81\021}
15576 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
15577 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
15578 \DeclareTextCommand{\ohorn}{PU}{\81\241}
15579 \DeclareTextCommand{\uhorn}{PU}{\81\260}
15580 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
15581 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
15582 \DeclareTextCommand{\DJ}{PU}{\81\020}
15583 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
15584 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
15585 \DeclareTextCommand{\OHORN}{PU}{\81\240}
15586 \DeclareTextCommand{\UHORN}{PU}{\81\257}

15587 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
15588 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
15589 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
15590 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
15591 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
15592 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
15593 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
15594 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
15595 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
15596 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
15597 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
15598 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
15599 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
15600 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
15601 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
15602 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
15603 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
15604 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
```

15605 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}  
15606 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}  
15607 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}  
15608 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}  
15609 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}  
15610 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}  
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15613 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}  
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15616 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}  
15617 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}  
15618 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}  
15619 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}  
15620 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}  
15621 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}  
15622 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}  
15623 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}  
15624 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}  
15625 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}  
15626 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}  
15627 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}  
15628 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}  
15629 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}  
15630 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}  
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15653 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}  
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15695 \DeclareTextCompositeCommand{h}{PU}{U}{\9036\346}
15696 \DeclareTextCompositeCommand{~}{PU}{U}{\81\150}
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15698 \DeclareTextCompositeCommand{d}{PU}{\UHORN}{\9036\360}
15699 \DeclareTextCompositeCommand{'}{PU}{\UHORN}{\9036\352}
15700 \DeclareTextCompositeCommand{h}{PU}{\UHORN}{\9036\354}
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15705 \DeclareTextCompositeCommand{h}{PU}{Y}{\9036\366}
15706 \DeclareTextCompositeCommand{~}{PU}{Y}{\9036\370}
15707 </puvnenc>

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## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

15708 <*puarenc>
15709 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LET-
TER HAMZA
15710 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE

```

15711 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LET-  
TER ALEF WITH HAMZA ABOVE

15712 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LET-  
TER WAW WITH HAMZA ABOVE

15713 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LET-  
TER ALEF WITH HAMZA BELOW

15714 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LET-  
TER YEH WITH HAMZA ABOVE

15715 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF

15716 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH

15717 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA

15718 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH

15719 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LET-  
TER THEH

15720 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LET-  
TER JEEM

15721 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH

15722 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH

15723 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL

15724 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL

15725 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH

15726 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN

15727 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN

15728 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LET-  
TER SHEEN

15729 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD

15730 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD

15731 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH

15732 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH

15733 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN

15734 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LET-  
TER GHAIN

15735 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL

15736 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH

15737 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF

15738 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF

15739 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM

15740 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LET-  
TER MEEM

15741 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON

15742 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH

15743 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW

15744 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LET-  
TER ALEF MAKSURA

15745 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

15746 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN

15747 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN

15748 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN

15749 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA

15750 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA

15751 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA

15752 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA

15753 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi

15754 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH

15755 \DeclareTextCommand{\tchah}{PU}{\86\206}% 0686;afii57507;ARABIC LET-  
TER TCHEH

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15756 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
15757 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9????;afii????;FARSI LET-
      TER KAF
15758 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
15759 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii????;FARSI LET-
      TER YEH

15760 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
15761 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

15762 \puarenc

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## 51 End of file hycheck.tex

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15763 \*check
15764 \typeout{}
15765 \begin{document}
15766 \end{document}
15767 \check

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