

# 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  $\LaTeX$  definition and compares this definition with the current meaning of that command.

```

42 \newcommand*{\checkcommand}[1]{%
43   \begingroup
44   \ifx\long#1\relax
45     \expandafter\HyC@checklong
46   \else
47     \def\HyC@defcmd{#1}%
48     \expandafter\let\expandafter\HyC@next
49       \csname HyC@\expandafter\@gobble\string#1\endcsname
50     \expandafter\HyC@checkcommand
51   \fi
52 }
```

`\HyC@checklong` The definition command `\def` or `\edef` is read.

```

53 \def\HyC@checklong#1{%
54   \def\HyC@defcmd{\long#1}%
55   \expandafter\let\expandafter\HyC@next
56     \csname HyC@\expandafter\@gobble\string#1\endcsname
57   \HyC@checkcommand
58 }
```

`\HyC@checkcommand` The optional star of  $\LaTeX$ 's definitions is parsed.

```

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

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

```

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

`\HyC@noValue`

```

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

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

```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

`\HyC@nc@opt` This macro scans the first optional argument of a L<sup>A</sup>T<sub>E</sub>X definition (number of arguments).

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```

231 \Hy@SetCatcodes

```

It needs the December 95 release of L<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 \@ifpackagelater{ltxcmds}{2010/10/25}{%}{%
234 \long\def\ltx@LocalAppendToMacro#1#2{%
235 \global\let\LTxcmds@gtemp#1%
236 \ifx\ltx@undefined\LTxcmds@gtemp
237 \global\let\LTxcmds@gtemp\ltx@empty
238 \else
239 \ifx\relax\LTxcmds@gtemp
240 \global\let\LTxcmds@gtemp\ltx@empty
241 \fi
242 \fi
243 \begingroup
244 \toks0\expandafter{\LTxcmds@gtemp#2}%
245 \xdef\LTxcmds@gtemp{\the\toks0}%
246 \endgroup
247 \let#1\LTxcmds@gtemp
248 }%
249 }

250 \RequirePackage{ifpdf}[2006/02/20]
251 \RequirePackage{pdftexcmds}[2009/04/10]
252 \@ifpackagelater{pdftexcmds}{2010/11/04}{%}{%
253 \ltx@ifundefined{pdfdraftmode}{%
254 \let\pdf@ifdraftmode\ltx@secondoftwo
255 }{%
256 \ifpdf
257 \def\pdf@ifdraftmode{%
258 \ifnum\pdfdraftmode=\ltx@one
259 \expandafter\ltx@firstoftwo
260 \else
261 \expandafter\ltx@secondoftwo
262 \fi
263 }%
264 \else
265 \let\pdf@ifdraftmode\ltx@secondoftwo
266 \fi
267 }%
268 }

```

```

269 \RequirePackage{infwarerr}[2010/04/08]
270 \RequirePackage{keyval}[1997/11/10]
271 \RequirePackage{kvsetkeys}[2007/09/29]
272 \RequirePackage{pdfescape}[2007/11/11]
273 \RequirePackage{ifvtex}
274 \RequirePackage{ifxetex}[2006/08/21]
275 \RequirePackage{hycolor}
276 \RequirePackage{letltxmacro}[2008/06/13]
277 \def\Hy@Error{\@PackageError{hyperref}}
278 \def\Hy@Warning{\@PackageWarning{hyperref}}
279 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
280 \def\Hy@Info{\@PackageInfo{hyperref}}
281 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
282 \def\Hy@Message#1{%
283   \GenericWarning{%
284     (hyperref)\@spaces\@spaces\@spaces
285   }{%
286     Package hyperref Message: #1\ltx@gobble
287   }%
288 }

```

## 4.2 Version check

\Hy@VersionChecked

```

289 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

290 \def\Hy@VersionCheck#1{%
291   \begingroup
292   \ltx@ifundefined{ver@hyperref.sty}{%
293     \Hy@Error{%
294       This should not happen!\MessageBreak
295       Missing hyperref version%
296     }\@ehd
297   }{%
298     \ltx@ifundefined{ver@#1}{%
299       \Hy@Error{%
300         This should not happen!\MessageBreak
301         Missing version of '#1'%
302       }\@ehd
303     }{%
304       \def\x##1##2##3{%
305         \expandafter\expandafter\expandafter\Hy@@VersionCheck
306         \expandafter\expandafter\expandafter##2%
307         \csname ver@##3\endcsname##1##1\@nil
308       }%
309       \x{ }\y{hyperref.sty}%
310       \x{ }\z{#1}%
311       \ifx\y\z
312         \else
313           \Hy@Error{%
314             Version mismatch!\MessageBreak
315             * \y: hyperref.sty\MessageBreak
316             * \z: #1%
317           }\@ehd
318         \fi
319     }%

```

```

320 }%
321 \endgroup
322 \chardef\Hy@VersionChecked=1 %
323 }

```

\Hy@@VersionCheck

```

324 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%
325 \def#1{#2 #3}%
326 }

```

### 4.3 Checks with regular expressions

```

327 \ltx@ifundefined{pdfmatch}{%
328 \def\Hy@Match#1#2#3#4{%
329 }{%
330 \def\Hy@Match#1#2{%
331 \begingroup
332 \edef\~{\ltx@backslashchar\string~}%
333 \edef\.\{\ltx@backslashchar.}%
334 \edef\[\{\ltx@backslashchar[]}%
335 \edef\${\ltx@backslashchar$}%
336 \edef\(\{\ltx@backslashchar(}%
337 \edef\)\{\ltx@backslashchar)}%
338 \edef\|{\ltx@backslashchar|}%
339 \edef\*{\ltx@backslashchar*}%
340 \edef\+{\ltx@backslashchar+}%
341 \edef\?{\ltx@backslashchar?}%
342 \edef\{{\ltx@backslashchar\ltx@leftbracechar}%
343 \edef\}\{\ltx@rightbracechar}%
344 \edef\\{\ltx@backslashchar\ltx@backslashchar}%
345 \let\ \ltx@space
346 \ifcase\pdfmatch{#2}{#1} %
347 \endgroup
348 \expandafter\ltx@secondoftwo
349 \or
350 \endgroup
351 \expandafter\ltx@firstoftwo
352 \else
353 \Hy@Warning{%
354 Internal error: Wrong pattern!\MessageBreak
355 --> #2 <--\MessageBreak
356 Pattern check ignored%
357 }%
358 \endgroup
359 \expandafter\ltx@firstoftwo
360 \fi
361 }%
362 \ltx@ifpackagelater{ltxcmds}{2010/09/11}{\fi}%
363 \begingroup
364 \lccode'0='\relax
365 \lowercase{\endgroup
366 \def\ltx@leftbracechar{0}%
367 }%
368 \begingroup
369 \lccode'0='\relax
370 \lowercase{\endgroup
371 \def\ltx@rightbracechar{0}%

```

```

372 }%
373 }%
374 }

```

## 4.4 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  $\text{\LaTeX}$  processing.

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

```

375 \@ifundefined{AfterBeginDocument}{%
376   \def\AfterBeginDocument{\AtBeginDocument}%
377 }{}%

```

`\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.

```

378 \def\Hy@AtBeginDocument{%
379   \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
380 }

```

`\Hy@AtEndOfPackage`

```

381 \def\Hy@AtEndOfPackage{%
382   \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
383 }

```

`\Hy@AtBeginDocumentHook`

```

384 \def\Hy@AtBeginDocumentHook{}

```

`\Hy@AtEndOfPackageHook`

```

385 \def\Hy@AtEndOfPackageHook{}

```

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

```

386 \AtEndOfPackage{%
387   \Hy@AtEndOfPackageHook
388   \let\Hy@AtEndOfPackageHook\@undefined
389   \AfterBeginDocument{%
390     \Hy@AtBeginDocumentHook}%
391   \let\Hy@AtBeginDocumentHook\@undefined
392 }%
393 }

```

Package `kvoptions` is used for processing options that are given as key value pairs. The package provides `\ProcessKeyvalOptions`, formerly known as `\ProcessOptionsWithKV`.

```

394 \RequirePackage{kvoptions}[2009/07/21]

```

## 4.5 Switches

```

395 \newif\ifHy@typexml
396 \newif\ifHy@activeanchor
397 \newif\ifHy@backref
398 \newif\ifHy@bookmarks
399 \newif\ifHy@bookmarksnumbered

```

```

400 \newif\ifHy@bookmarksopen
401 \newif\ifHy@breaklinks
402 \newif\ifHy@centerwindow
403 \newif\ifHy@CJKbookmarks
404 \newif\ifHy@colorlinks
405 \newif\ifHy@draft
406 \let\Hy@finaltrue\Hy@draftfalse
407 \let\Hy@finalfalse\Hy@drafttrue
408 \newif\ifHy@escapeform
409 \newif\ifHy@figures
410 \newif\ifHy@fitwindow
411 \newif\ifHy@frenchlinks
412 \newif\ifHy@hyperfootnotes
413 \newif\ifHy@hyperindex
414 \newif\ifHy@hypertextnames
415 \newif\ifHy@implicit
416 \newif\ifHy@linktocpage
417 \newif\ifHy@localanchorname
418 \newif\ifHy@menubar
419 \newif\ifHy@naturalnames
420 \newif\ifHy@nesting
421 \newif\ifHy@newwindowset
422 \newif\ifHy@newwindow
423 \newif\ifHy@ocgcolorlinks
424 \newif\ifHy@pageanchor
425 \newif\ifHy@pagelabels
426 \newif\ifHy@pdfpagehidden
427 \newif\ifHy@pdfstring
428 \newif\ifHy@plainpages
429 \newif\ifHy@psize
430 \newif\ifHy@raiselinks
431 \newif\ifHy@seminarslides
432 \newif\ifHy@setpagesize
433 \newif\ifHy@texht
434 \newif\ifHy@toolbar
435 \newif\ifHy@unicode
436 \newif\ifHy@usetitle
437 \newif\ifHy@verbose
438 \newif\ifHy@windowui
439 \newif\ifHy@displaydoctitle
440 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

441 \Hy@backreffalse
442 \Hy@bookmarksnumberedfalse
443 \Hy@bookmarksopenfalse
444 \Hy@bookmarkstrue
445 \Hy@breaklinksfalse
446 \Hy@centerwindowfalse
447 \Hy@CJKbookmarksfalse
448 \Hy@escapeformfalse
449 \Hy@figuresfalse
450 \Hy@fitwindowfalse
451 \Hy@hyperfootnotesttrue
452 \Hy@hyperindextrue
453 \Hy@hypertextnamestrue
454 \Hy@implicittrue
455 \Hy@linktocpagefalse

```

```

456 \Hy@localanchornamefalse
457 \Hy@menubartrue
458 \Hy@naturalnamesfalse
459 \Hy@nestingfalse
460 \Hy@newwindowsetfalse
461 \Hy@newwindowfalse
462 \Hy@pageanchortrue
463 \Hy@pagelabelstrue
464 \Hy@pdfpagehiddenfalse
465 \Hy@pdfstringfalse
466 \Hy@plainpagesfalse
467 \Hy@raiselinksfalse
468 \Hy@setpagesizetrue
469 \Hy@texhtfalse
470 \Hy@toolbartrue
471 \Hy@typexmlfalse
472 \Hy@unicodedefalse
473 \Hy@usetitlefalse
474 \Hy@verbosefalse
475 \Hy>windowuitrue
476 \Hy@displaydoctitlefalse
477 \Hy@pdfafalse

```

## 5 Common help macros

\Hy@StepCount

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

\Hy@GlobalStepCount

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

```

480 \newdimen\@linkdim
481 \let\Hy@driver\@empty
482 \let\MaybeStopEarly\relax
483 \newcount\Hy@linkcounter
484 \newcount\Hy@pagecounter
485 \Hy@linkcounter0
486 \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.

```

487 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
488 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

489 \let\Hy@ReturnEnd\@empty
490 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
491 \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 used directly, because they can be undefined if  
 \Hy@safe@activesfalse    babel is not loaded.

```

492 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
493 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

```

### 5.3 Coordinate transformations

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

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

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

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

Example (TeX):

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

`\hypercalcbp`

```
494 \begingroup\expandafter\expandafter\expandafter\endgroup
495 \expandafter\ifx\csname dimexpr\endcsname\relax
496   \def\hypercalcbpdef#1#2{%
497     \begingroup
498       \toks@{}%
499       \HyCal@scan#2\hypercalcbp\@nil
500     \expandafter\endgroup
501     \expandafter\def\expandafter#1\expandafter{\the\toks@}%
502   }%
503 \def\HyCal@scan#1\hypercalcbp#2\@nil{%
504   \toks@\expandafter{\the\toks@ #1}%
505   \ifx\#2\%
506     \else
507       \Hy@ReturnAfterFi{%
508         \HyCal@do#2\@nil
509       }%
510     \fi
511   }%
512 \def\HyCal@do#1#2\@nil{%
513   \ifpackageloaded{calc}{}%
514   \Hy@Warning{%
515     For calculations \string\hypercalcbp\space needs\MessageBreak
516     package calc or e-TeX%
517   }%
518 }%
519 \setlength{\dimen@}{#1}%
```

```

520 \setlength{\dimen@}{0.99626401\dimen@}%
521 \edef\x{%
522   \toks@{%
523     \the\toks@
524     \strip@pt\dimen@
525   }%
526   }\x
527   \HyCal@scan#2\@nil
528 }%
529 \else
530 \def\hypercalcbp#1{%
531   \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
532 }%
533 \def\hypercalcbpdef{\def}%
534 \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  $\TeX$ , because the tokens have only catcodes 10 until 12.

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

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

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

```
536 \begingroup
```

### 6.2.1 Preprocessing

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

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

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

```
537 \escapechar'\%
```

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

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

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

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

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

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

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

```
542 \ifHy@unicode
```

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

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

```
545 \fontencoding{PU}%
```

```
546 \HyPsd@UTFviii
```

```
547 \def\ifpdfstringunicode##1##2{##1}%
```

```
548 \else
```

```
549 \fontencoding{PD1}%
```

```
550 \def\ifpdfstringunicode##1##2{##2}%
```

```
551 \fi
```

```
552 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
```

```
553 \enc@update
```

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

```
554 \let\@inmathwarn\pdfstringdef
```

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

```
555 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
556 \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.

```
557 \let\{\textbraceleft
558 \let\}\textbraceright
559 \let\\\textbackslash
560 \let\#\textnumbersign
561 \let\$\textdollar
562 \let\%\textpercent
563 \let\&\textampersand
564 % \let\~\textasciitilde
565 \let\_ \textunderscore
566 \let\P\textparagraph
567 \let\ldots\textellipsis
568 \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.

```
569 \def\\\{\pdfstringdefWarn\\}%
570 \def\newline{\pdfstringdefWarn\newline}%
```

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

```
571 \def\TeX{\TeX}%
572 \def\LaTeX{\LaTeX}%
573 \def\LaTeXe{%
```

```

574 \LaTeX2%
575 \ifHy@unicode\textepsilon\else e\fi
576 }%
577 \def\TeX{%
578 \ifHy@unicode\textepsilon\else e\fi
579 -\TeX%
580 }%
581 \def\SliTeX{Sli\TeX}%
582 \def\MF{Metafont}%
583 \def\MP{Metapost}%

```

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

```

584 \let\fontencoding\@gobble
585 \let\fontfamily\@gobble
586 \let\fontseries\@gobble
587 \let\fontshape\@gobble
588 \let\fontsize\@gobbletwo
589 \let\selectfont\@empty
590 \let\usefont\@gobblefour
591 \let\emph\@firstofone
592 \let\textnormal\@firstofone
593 \let\textrm\@firstofone
594 \let\textsf\@firstofone
595 \let\texttt\@firstofone
596 \let\textbf\@firstofone
597 \let\textmd\@firstofone
598 \let\textit\@firstofone
599 \let\textsc\@firstofone
600 \let\textsl\@firstofone
601 \let\textup\@firstofone
602 \let\normalfont\@empty
603 \let\rmfamily\@empty
604 \let\sfamily\@empty
605 \let\ttfamily\@empty
606 \let\bfseries\@empty
607 \let\mdseries\@empty
608 \let\itshape\@empty
609 \let\scshape\@empty
610 \let\slshape\@empty
611 \let\upshape\@empty
612 \let\em\@empty
613 \let\rm\@empty
614 \let\Huge\@empty
615 \let\LARGE\@empty
616 \let\Large\@empty
617 \let\footnotesize\@empty
618 \let\huge\@empty
619 \let\large\@empty
620 \let\normalsize\@empty
621 \let\scriptsize\@empty
622 \let\small\@empty
623 \let\tiny\@empty
624 \let\mathversion\@gobble
625 \let\phantom\@gobble
626 \let\vphantom\@gobble
627 \let\hphantom\@gobble

```

### Environments.

```
628 \def\begin#1{\csname#1\endcsname}%
629 \def\end#1{\csname end#1\endcsname}%
```

### Package color.

```
630 \def\textcolor##1##{\@secondoftwo}%
```

### Upper- and lowercase.

```
631 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
632 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%
```

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

```
633 \let\foreignlanguage\@secondoftwo
634 \let\textlatin\@firstofone
635 \ltx@ifundefined{language@group}{-}{%
636 \csname HyPsd@babel@language@group\endcsname
637 }%
638 \HyPsd@GreekPatch
639 \HyPsd@SpanishPatch
640 \HyPsd@RussianPatch
641 \HyPsd@BabelPatch
642 \let\@safe@activestrue\relax
643 \let\@safe@activesfalse\relax
```

Disable `\cyr`, used in `russianb.ldf`.

```
644 \let\cyr\relax
```

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

```
645 \let\es@roman\@Roman
```

### Package german.

```
646 \let\glqq\textglqq
647 \let\grqq\textgrqq
648 \let\glq\textglq
649 \let\grq\textgrq
650 \let\flqq\textflqq
651 \let\frqq\textfrqq
652 \let\flq\textflq
653 \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}
654 \let\if@mid@expandable\@firstoftwo
```

### AMS classes.

```
655 \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.

```
656 \let\hspace\HyPsd@hspace
```

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

```
657 \let\label\@gobble
658 \let\index\@gobble
659 \let\glossary\@gobble
660 \let\href\HyPsd@href
661 \let\@mkboth\@gobbletwo
```

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

```
662 \let\ref\HyPsd@ref
663 \let\pageref\HyPsd@pageref
664 \let\nameref\HyPsd@nameref
665 \let\autoref\HyPsd@autoref
```

**Miscellaneous commands.**

```
666 \let\leavevmode\@empty
667 \let\mbox\@empty
```

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

```
668 \def\halign{\pdfstringdef\Warn\halign\@gobble}%
669 \let\ignorespaces\HyPsd@ignorespaces
670 \let\Hy@SectionAnchorHref\@gobble
```

**Patch for `cjk` bookmarks.**

```
671 \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  $\text{\TeX}$ '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`).

```
672 \Hy@pdfstringtrue
673 \pdfstringdefPreHook
```

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

```
674 \HyPsd@LetUnexpandableSpace\space
675 \HyPsd@LetUnexpandableSpace\%
676 \HyPsd@LetUnexpandableSpace~%
677 \HyPsd@LetUnexpandableSpace\nobreakspace
```

### Package xspace.

```
678 \ltx@ifundefined{@xspace}{%
679 \let\xspace\HyPsd@ITALCORR
680 }{%
681 \let\xspace\HyPsd@XSPACE
682 }%
683 \let\/\HyPsd@ITALCORR
684 \let\bgroup\/%
685 \let\egroup\/%
```

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

```
686 \let\discretionary\@gobbletwo
\@ifstar is defined in LATEX as follows:
```

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

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

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

```
687 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
688 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
689 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
690 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

### 6.2.2 Expansion

There are several possibilities to expand tokens within L<sup>A</sup>T<sub>E</sub>X:

**\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 T<sub>E</sub>X and reported as errors in order to force the user to write correct things. So he gets no wrong results by forgetting the proofreading of his text. But the *disadvantage* is that old wrong code cannot be processed without errors. Mainly the error message is very cryptic and for the normal user hard to understand. T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X'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 L<sup>A</sup>T<sub>E</sub>X 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 T<sub>E</sub>X, 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).

```
692 \begingroup
693 \let\GenericError\@gobblefour
694 \let\GenericWarning\@gobbletwo
695 \let\GenericInfo\@gobbletwo
```

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

```
696 \ifx\nofrenchguillemets\@undefined
697 \else
698 \nofrenchguillemets
699 \fi
```

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

```
700 \let\Hy@temp\xdef
701 \let\def\HyPsd@DefCommand
702 \let\gdef\HyPsd@DefCommand
703 \let\edef\HyPsd@DefCommand
704 \let\xdef\HyPsd@DefCommand
705 \let\futurelet\HyPsd@LetCommand
706 \let\let\HyPsd@LetCommand
707 \Hy@temp#1{#2}%
708 \endgroup
```

### 6.2.3 Postprocessing

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

```
709 \ifx#1\@empty
710 \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 litte 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.

- $\TeX$  silently removes the outmost pair of braces of an argument. To prevent this on unwanted places, in the following the character | is appended to the string to make an outer brace to an inner one.

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

```

711 \HyPsd@ProtectSpaces#1%
712 \let\HyPsd@String\@empty
713 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
714 \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.

```

715 \let\HyPsd@SPACEOPTI\relax
716 {%
717 \let\HyPsd@String\@empty
718 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
719 \global\let#1\HyPsd@String
720}%
721 \expandafter\HyPsd@RemoveMask\expandafter
722 |\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.

```

723 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
724 \let\HyPsd@String\@empty
725 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
726 \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.

```
727 \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.

```
728 \ifHy@unicode
729 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
730 \HyPsd@SPACEOPTI#1%
731 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
732 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
733 {\HyPsd@SPACEOPTI\80\273}#1%
734 \else
735 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
736 \expandafter\HyPsd@Subst\expandafter{%
737 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
738 \string\273}\HyPsd@SPACEOPTI\273}#1%
739 \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.

```
740 \ifHy@unicode
741 \HyPsd@StringSubst{\)}{\80\051}#1%
742 \HyPsd@Subst){\80\051}#1%
743 \let\HyPsd@empty\relax
744 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
745 {\HyPsd@empty\80\051}#1%
746 \else
747 \HyPsd@StringSubst{\)}{\051}#1%
748 \HyPsd@Subst){\051}#1%
749 \let\HyPsd@empty\relax
750 \HyPsd@StringSubst{\051}\HyPsd@empty\string\)}#1%
751 \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`.

```

752 \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
753 \ltx@ifundefined{@xspace}{%
754 }{%
755 \let\HyPsd@xspace\relax
756 \expandafter\HyPsd@Subst\expandafter
757 {\HyPsd@XSPACE}\HyPsd@xspace#1%
758 \let\HyPsd@xspace\HyPsd@doxspace
759 }%
760 \xdef#1{#1\HyPsd@empty}%

```

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

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

```

761 \HyPsd@Subst{---}\textemdash#1%
762 \HyPsd@Subst{--}\textendash#1%
763 % \HyPsd@Subst{fi}\textfi#1%
764 % \HyPsd@Subst{fl}\textfl#1%
765 \HyPsd@Subst{!'}\textexclamdown#1%
766 \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

767 \let\HyPsd@empty\@empty

```

**Left parentheses.** Left parentheses are now converted to safe forms to avoid problems with unmatched ones (`\(` with PDFDocEncoding, the octal sequence with Unicode).

An optimization is possible. Matched parentheses can be replaced by a `()` pair. But this code is removed to save  $\TeX$  memory and time.

```

768 \ifHy@unicode
769 \HyPsd@StringSubst{\textparenleft#1%
770 \HyPsd@Subst(\textparenleft#1%
771 \else
772 \HyPsd@StringSubst{\{050\}#1%
773 \HyPsd@Subst(\{050\}#1%
774 \HyPsd@StringSubst{\050}\string\{)#1%
775 \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.

```

776 \ifHy@unicode
777 \edef\HyPsd@SPACEOPTI{\80\040}%
778 \else

```

```

779 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
780 \fi
781 \xdef#1{#1\@empty}%
782 \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.

```

783 \endgroup
784 \begingroup
785 \ifHy@unicode
786 \HyPsd@ConvertToUnicode#1%

```

**Try conversion back to PDFDocEncoding.**

```

787 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
788 \ltx@ifundefined{StringEncodingConvertTest}{%
789 }{%
790 \EdefUnescapeString\HyPsd@temp#1%
791 \ifxetex
792 \let\HyPsd@UnescapedString\HyPsd@temp
793 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
794 {utf16be}{ascii-print}{%
795 \EdefEscapeString\HyPsd@temp\HyPsd@temp
796 \global\let#1\HyPsd@temp
797 \HyPsd@EscapeTeX#1%
798 \Hy@unicodefalse
799 }{%
800 \HyPsd@ToBigChars#1%
801 }%
802 \else
803 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
804 {utf16be}{pdfdoc}{%
805 \EdefEscapeString\HyPsd@temp\HyPsd@temp
806 \global\let#1\HyPsd@temp
807 \HyPsd@EscapeTeX#1%
808 \Hy@unicodefalse
809 }{%}%
810 \fi
811 }%
812 \fi
813 \fi
814 \HyPsd@XeTeXBigCharsfalse

```

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

```

815 \pdfstringdefPostHook#1%
816 \endgroup
817 }

```

\Hy@pdfstringdef

```

818 \def\Hy@pdfstringdef#1#2{%
819 \pdfstringdef\Hy@gtemp{#2}%
820 \let#1\Hy@gtemp
821 }

```

## 6.3 Encodings

### 6.3.1 XeTeX

```
822 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
823 \catcode\z@=12 %
824 \ifxetex
825   \expandafter\@firstofone
826 \else
827   \let\HyPsd@XeTeXBigCharstrue\@empty
828   \let\HyPsd@XeTeXBigCharsfalse\@empty
829   \expandafter\@gobble
830 \fi
831 {%
832   \newif\ifHyPsd@XeTeXBigChars
833   \def\HyPsd@XeTeXBigCharsfalse{%
834     \global\let\ifHyPsd@XeTeXBigChars\iffalse
835   }%
836   \def\HyPsd@XeTeXBigCharstrue{%
837     \global\let\ifHyPsd@XeTeXBigChars\iftrue
838   }%
839   \def\HyPsd@ToBigChars#1{%
840     \ifHyPsd@XeTeXBigChars
841       \EdefEscapeHex\HyPsd@UnescapedString{%
842         \expandafter\@gobbletwo\HyPsd@UnescapedString
843       }%
844       \begingroup
845         \toks@{%
846           \escapechar=92\relax
847           \let\x\HyPsd@ToBigChar
848           \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
849           \relax\relax\relax\relax\relax\relax\relax
850         \edef\x{%
851           \endgroup
852           \gdef\noexpand#1{\the\toks@}%
853         }%
854         \x
855       \fi
856     }%
857   \def\HyPsd@ToBigChar#1#2#3#4{%
858     \ifx\relax#1\relax
859       \let\x\relax
860     \else
861       \count@=#1#2#3#4\relax
862       \let\y\@empty
863       \lcode\z@=\count@
864       \ifnum\count@=40 % (
865         \let\y\@backslashchar
866       \else
867         \ifnum\count@=41 % )
868         \let\y\@backslashchar
869       \else
870         \ifnum\count@=92 % backslash
871         \let\y\@backslashchar
872       \else
873         \ifnum\count@=10 % newline
874         \edef\y##1{\string\n}%
875       \else
```

```

876         \ifnum\count@=13 % carriage return
877         \edef\y###1{\string\r}%
878         \fi
879     \fi
880 \fi
881 \fi
882 \fi
883 \lowercase{%
884     \toks@\expandafter{%
885         \the\expandafter\toks@
886         \y
887         ^^@%
888     }%
889 }%
890 \fi
891 \x
892 }%
893 }
894 \Hy@temp

```

### 6.3.2 Workaround for package linguex

```

895 \ifpackageloaded{linguex}{%
896     \let\HyLinguex@OrgB\b
897     \let\HyLinguex@OrgC\c
898     \let\HyLinguex@OrgD\d
899     \def\HyLinguex@Restore{%
900         \let\b\HyLinguex@OrgB
901         \let\c\HyLinguex@OrgC
902         \let\d\HyLinguex@OrgD
903     }%
904     \Hy@AtEndOfPackage{%
905         \pdfstringdefDisableCommands{%
906             \ltx@ifundefined{oldb}{-}{\let\b\oldb}%
907             \ltx@ifundefined{oldc}{-}{\let\c\oldc}%
908             \ltx@ifundefined{oldd}{-}{\let\d\oldd}%
909         }%
910     }%
911 }{%
912     \let\HyLinguex@Restore\relax
913 }%

```

### 6.3.3 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>'s NFSS. Because the informational strings are not set by T<sub>E</sub>X's typesetting mechanism but for interpreting by the PDF reader, the glyphs of the PD1 encoding are implemented to be safely written to a file (PDF output file, .out file).

The PD1 encoding can be specified as an option of the 'fontenc' package or loaded here. It does not matter what font family is selected, as T<sub>E</sub>X does not process it anyway. So use CM.

```

914 \ifundefined{T@PD1}{%
915     \input{pd1enc.def}%
916     \HyLinguex@Restore
917 }{}
918 \DeclareFontFamily{PD1}{pdf}{}
919 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
920 \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`.

```

921 \def\HyPsd@InitUnicode{%
922   \ifundefined{T@PU}{%
923     \input{puenc.def}%
924     \HyLinguex@Restore
925   }{}%
926   \DeclareFontFamily{PU}{pdf}{}%
927   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
928   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
929   \let\HyPsd@InitUnicode\relax
930 }
```

## 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.

```

931 \def\texorpdfstring{%
932   \ifHy@pdfstring
933     \expandafter\@secondoftwo
934   \else
935     \expandafter\@firstoftwo
936   \fi
937 }
```

### 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`.

```

938 \@ifundefined{pdfstringdefPreHook}{%
939   \let\pdfstringdefPreHook\@empty
940 }{}
941 \@ifundefined{pdfstringdefPostHook}{%
942   \let\pdfstringdefPostHook\@gobble
943 }{}

```

`\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  $\text{\LaTeX}$  commands like `@gobble` or `@firstofone`.

```
944 \def\pdfstringdefDisableCommands{%
945   \begingroup
946   \makeatletter
947   \HyPsd@DisableCommands
948 }
```

`\HyPsd@DisableCommands`

```
949 \long\def\HyPsd@DisableCommands#1{%
950   \toks0=\expandafter{\pdfstringdefPreHook}%
951   \toks1={#1}%
952   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
953   \endgroup
954 }
```

`\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`.

```
955 \def\pdfstringdefWarn#1{%
956   \expandafter\noexpand\csname<>-string#1\endcsname
957 }
```

## 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.

```
958 \begingroup
959   \catcode0=12 %
960   \def\x{\endgroup
961     \def\HyPsd@ignorespaces{%
962       \romannumeral\expandafter'\expandafter^^@%
963       \romannumeral'^^@%
964     }%
965   }%
966   \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`.

```

967 \def\HyPsd@BabelPatch{%
968   \let\HyOrg@languageshorthands\languageshorthands
969   \let\languageshorthands\HyPsd@LanguageShorthands
970 }
971 \begingroup\expandafter\expandafter\expandafter\endgroup
972 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
973   \let\HyPsd@langshort@system\@empty
974   \def\HyPsd@LanguageShorthands#1{%
975     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
976       \HyPsd@langshort@system
977     \expandafter\@gobble
978   \else
979     \expandafter\@firstofone
980   \fi
981   {%
982     \HyOrg@languageshorthands{#1}%
983   }%
984 }%
985 \else
986   \def\HyPsd@LanguageShorthands#1{%
987     \ifnum\pdf@strcmp{#1}{system}=\z@
988       \expandafter\@gobble
989     \else
990       \expandafter\@firstofone
991     \fi
992     {%
993       \HyOrg@languageshorthands{#1}%
994     }%
995   }%
996 \fi
997 \def\Hy@temp{%
998   \@ifpackageloaded{babel}{%
999     \@ifpackagelater{babel}{2008/03/16}{%
1000       \let\Hy@temp\@empty
1001     }{%
1002       \def\HyPsd@BabelPatch{%
1003         \let\HyOrg@languageshorthands\languageshorthands
1004       }%
1005     }%
1006   }{}%
1007 }
1008 \Hy@temp
1009 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
1010 \newif\ifHy@next

```

Nothing to do for english.

```

1011 \ltx@ifundefined{danish@sh@"@sel}{-}{%
1012   \def\HyPsd@babel@danish{%
1013     \declare@shorthand{danish}{-}{-}%
1014     \declare@shorthand{danish}{~}{-}%
1015   }%
1016 }
1017 \ltx@ifundefined{dutch@sh@"@sel}{-}{%

```

```

1018 \def\HyPsd@babel@dutch{%
1019   \declare@shorthand{dutch}{"}{|}%
1020   \declare@shorthand{dutch}{"}~{-}%
1021 }%
1022 }
1023 \ltx@ifundefined{finnish@sh@}@sel}{|}%
1024 \def\HyPsd@babel@finnish{%
1025   \declare@shorthand{finnish}{"}{|}%
1026 }%
1027 }
1028 \ltx@ifundefined{french@sh@}@sel}{|}%
1029 \def\HyPsd@babel@frenchb{%
1030   \def\guill@spacing{ }%
1031 }%
1032 }
1033 \ltx@ifundefined{german@sh@}@sel}{|}%
1034 \def\HyPsd@babel@german{%
1035   \declare@shorthand{german}{"}{|}%
1036   \declare@shorthand{german}{"}{|}%
1037   \declare@shorthand{german}{"}~{-}%
1038 }%
1039 }
1040 \ltx@ifundefined{macedonian@sh@}@sel}{|}%
1041 \def\HyPsd@babel@macedonian{%
1042   \declare@shorthand{macedonian}{"}{|}%
1043   \declare@shorthand{macedonian}{"}~{-}%
1044 }%
1045 }{}
1046 \ltx@ifundefined{ngerman@sh@}@sel}{|}%
1047 \def\HyPsd@babel@ngerman{%
1048   \declare@shorthand{ngerman}{"}{|}%
1049   \declare@shorthand{ngerman}{"}~{-}%
1050 }%
1051 }
1052 \ltx@ifundefined{portuges@sh@}@sel}{|}%
1053 \def\HyPsd@babel@portuges{%
1054   \declare@shorthand{portuges}{"}{|}%
1055 }%
1056 }
1057 \ltx@ifundefined{russian@sh@}@sel}{|}%
1058 \def\HyPsd@babel@russian{%
1059   \declare@shorthand{russian}{"}{|}%
1060   \declare@shorthand{russian}{"}~{-}%
1061 }%
1062 }
1063 \ltx@ifundefined{slovene@sh@}@sel}{|}%
1064 \def\HyPsd@babel@slovene{%
1065   \declare@shorthand{slovene}{"}{|}%
1066 }%
1067 }

```

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

```

1068 \ltx@ifundefined{spanish@sh@}>@sel}{|}%
1069 \def\HyPsd@babel@spanish{%
1070   \declare@shorthand{spanish}{<<}{\guillemotleft}%
1071   \declare@shorthand{spanish}{>>}{\guillemotright}%
1072   \declare@shorthand{spanish}{"}=}{|}%
1073   \declare@shorthand{spanish}{"}~}{-}%

```

```

1074 \declare@shorthand{spanish}{!}{\textexclamdown}%
1075 \declare@shorthand{spanish}{?}{\textquestiondown}%
1076 }%
1077 }
1078 \ltx@ifundefined{swedish@sh@"@sel}{-}{%
1079 \def\HyPsd@babel@swedish{%
1080 \declare@shorthand{swedish}{"}{|}{%
1081 \declare@shorthand{swedish}{~}{-}%
1082 }%
1083 }
1084 \ltx@ifundefined{ukrainian@sh@"@sel}{-}{%
1085 \def\HyPsd@babel@ukrainian{%
1086 \declare@shorthand{ukrainian}{"}{|}{%
1087 \declare@shorthand{ukrainian}{~}{-}%
1088 }%
1089 }
1090 \ltx@ifundefined{usorbian@sh@"@sel}{-}{%
1091 \def\HyPsd@babel@usorbian{%
1092 \declare@shorthand{usorbian}{f}{f}%
1093 \declare@shorthand{usorbian}{"}{|}{%
1094 }%
1095 }
1096 \ltx@ifundefined{greek@sh@\string~@sel}{-}{%
1097 \let\HyPsd@GreekPatch\@empty
1098 }{%
1099 \def\HyPsd@GreekPatch{%
1100 \let\greeknumeral\HyPsd@greeknumeral
1101 \let\Greeknnumeral\HyPsd@Greeknnumeral
1102 }%
1103 }
1104 \def\HyPsd@greeknumeral#1{%
1105 \HyPsd@GreekNum\@firstoftwo{#1}%
1106 }
1107 \def\HyPsd@Greeknnumeral#1{%
1108 \HyPsd@GreekNum\@secondoftwo{#1}%
1109 }
1110 \def\HyPsd@GreekNum#1#2{%
1111 \ifHy@unicode
1112 \ifnum#2<\@ne
1113 \@arabic{#2}%
1114 \else
1115 \ifnum#2<1000000 %
1116 \HyPsd@@GreekNum#1{#2}%
1117 \else
1118 \@arabic{#2}%
1119 \fi
1120 \fi
1121 \else
1122 \@arabic{#2}%
1123 \fi
1124 }
1125 \def\HyPsd@@GreekNum#1#2{%
1126 \ifnum#2<\@m
1127 \ifnum#2<10 %
1128 \expandafter\HyPsd@GreekNumI
1129 \expandafter\@gobble\expandafter#1\number#2%
1130 \else

```

```

1131 \ifnum#2<100 %
1132 \expandafter\HyPsd@GreekNumII
1133 \expandafter\@gobble\expandafter#1\number#2%
1134 \else
1135 \expandafter\HyPsd@GreekNumIII
1136 \expandafter\@gobble\expandafter#1\number#2%
1137 \fi
1138 \fi
1139 \ifnum#2>\z@
1140 \textnumeralsigngreek
1141 \fi
1142 \else
1143 \ifnum#2<\@M
1144 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1145 \else
1146 \ifnum#2<100000 %
1147 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1148 \else
1149 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1150 \fi
1151 \fi
1152 \fi
1153 }
1154 \def\HyPsd@GreekNumI#1#2#3{%
1155 #1{%
1156 \ifnum#3>\z@
1157 \textnumeralsignlowergreek
1158 \fi
1159 }%
1160 \expandafter#2%
1161 \ifcase#3 %
1162 {}{}%
1163 \or\textalpha\textAlpha
1164 \or\textbeta\textBeta
1165 \or\textgamma\textGamma
1166 \or\textdelta\textDelta
1167 \or\textepsilon\textEpsilon
1168 \or\textstigmagreek\textStigmagreek
1169 \or\textzeta\textZeta
1170 \or\texteta\textEta
1171 \or\texttheta\textTheta
1172 \else
1173 {}{}%
1174 \fi
1175 }
1176 \def\HyPsd@GreekNumII#1#2#3#4{%
1177 #1{%
1178 \ifnum#3>\z@
1179 \textnumeralsignlowergreek
1180 \fi
1181 }%
1182 \expandafter#2%
1183 \ifcase#3 %
1184 {}{}%
1185 \or\textiota\textIota
1186 \or\textkappa\textKappa
1187 \or\textlambda\textLambda

```

```

1188 \or\textmu\textMu
1189 \or\textnu\textNu
1190 \or\textxi\textXi
1191 \or\textomicron\textOmicron
1192 \or\textpi\textPi
1193 \or\textkoppagreek\textKoppagreek
1194 \else
1195   {}{}%
1196 \fi
1197 \HyPsd@GreekNumI#1#2#4%
1198 }
1199 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1200   #1{%
1201     \ifnum#3>\z@
1202       \textnumeralsignlowergreek
1203     \fi
1204   }%
1205   \expandafter#2%
1206   \ifcase#3 %
1207     {}{}%
1208   \or\extrho\textRho
1209   \or\textsigma\textSigma
1210   \or\texttau\textTau
1211   \or\textupsilon\textUpsilon
1212   \or\textphi\textPhi
1213   \or\textchi\textChi
1214   \or\textpsi\textPsi
1215   \or\textomega\textOmega
1216   \or\textsampigreek\textSampigreek
1217   \else
1218     {}{}%
1219   \fi
1220   \HyPsd@GreekNumII#1#2#4#5%
1221 }
1222 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1223   \HyPsd@GreekNumI\@firstofone#1#2%
1224   \HyPsd@@GreekNum#1{#3#4#5}%
1225 }
1226 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1227   \HyPsd@GreekNumII\@firstofone#1#2#3%
1228   \HyPsd@@GreekNum#1{#4#5#6}%
1229 }
1230 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1231   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1232   \HyPsd@@GreekNum#1{#5#6#7}%
1233 }
1234 \def\HyPsd@SpanishPatch{%
1235   \ltx@ifundefined{es@save@dot}{%
1236     }{%
1237       \let\.\es@save@dot
1238     }%
1239 }

```

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

```

1240 \def\HyPsd@RussianPatch{%
1241   \ltx@ifundefined{russian@sh@"@-@}{%

```

```

1242 }{%
1243   \@namedef{russian@sh@"@-@}{-}%
1244 }%
1245 }

```

### 6.5.3 CJK patch

```

1246 \RequirePackage{intcalc}[2007/09/27]

```

\HyPsd@CJKhook

```

1247 \def\HyPsd@CJKhook{%
1248   \ltx@ifpackageloaded{CJK}{%
1249     \let\CJK@kern\relax
1250     \let\CJKkern\relax
1251     \let\CJK@CJK\relax
1252     \ifHy@CJKbookmarks
1253       \HyPsd@CJKhook@bookmarks
1254     \fi
1255     \HyPsd@CJKhook@unicode
1256   }{}%
1257 }

```

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

```

1258 \begingroup
1259   \catcode"7F=\active
1260   \toks@{%
1261     \let\CJK@ignorespaces\empty
1262     \def\CJK@char#1{\@gobbletwo}%
1263     \let\CJK@charx\@gobblefour
1264     \let\CJK@punctchar\@gobblefour
1265     \def\CJK@punctcharx#1{\@gobblefour}%
1266     \catcode"7F=\active
1267     \def^^7f#1^^7f#2^^7f{%
1268       \string #1\HyPsd@DecimalToOctal{#2}%
1269     }%
1270     % ... ?
1271     \ifHy@unicode
1272       \def\Hy@cjkpu{\80}%
1273     \else
1274       \let\Hy@cjkpu\@empty
1275     \fi
1276     \HyPsd@CJKActiveChars
1277   }%
1278   \count@=127 %
1279   \@whilenum\count@<255 \do{%
1280     \advance\count@ by 1 %

```

```

1281 \lccode'\~=\count@
1282 \lowercase{%
1283 \toks@\expandafter{\the\toks@ ~}%
1284 }%
1285 }%
1286 \toks@\expandafter{\the\toks@ !}%
1287 \xdef\HyPsd@CJKhook@bookmarks{%
1288 \the\toks@
1289 }%
1290 \endgroup

```

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

```

1291 \def\HyPsd@CJKActiveChars#1{%
1292 \ifx#1!%
1293 \let\HyPsd@CJKActiveChars\relax
1294 \else
1295 \edef#1{\noexpand\Hy@cjku\string#1}%
1296 \fi
1297 \HyPsd@CJKActiveChars
1298 }

```

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

```

1299 \def\HyPsd@DecimalToOctal#1{%
1300 \ifcase #1 %
1301 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1302 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1303 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1304 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1305 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1306 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1307 \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1308 \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1309 \or @\or A\or B\or C\or D\or E\or F\or G%
1310 \or H\or I\or J\or K\or L\or M\or N\or O%
1311 \or P\or Q\or R\or S\or T\or U\or V\or W%
1312 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1313 \or \140\or a\or b\or c\or d\or e\or f\or g%
1314 \or h\or i\or j\or k\or l\or m\or n\or o%
1315 \or p\or q\or r\or s\or t\or u\or v\or w%
1316 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1317 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1318 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1319 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1320 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1321 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1322 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1323 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1324 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1325 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1326 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1327 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1328 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1329 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1330 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1331 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1332 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%

```

```

1333 \fi
1334 }

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1335 \def\HyPsd@CJKhook@unicode{%
1336 \let\Unicode\HyPsd@CJK@Unicode
1337 \let\CJKnumber\HyPsd@CJKnumber
1338 \let\CJKdigits\HyPsd@CJKdigits
1339 }

```

\HyPsd@CJK@Unicode

```

1340 \def\HyPsd@CJK@Unicode#1#2{%
1341 \ifnum#1<256 %
1342 \HyPsd@DecimalToOctalFirst{#1}%
1343 \HyPsd@DecimalToOctalSecond{#2}%
1344 \else
1345 \933%
1346 \expandafter\expandafter\expandafter\HyPsd@HighA
1347 \intcalcDiv{#1}{4}!%
1348 \933%
1349 \ifcase\intcalcMod{#1}{4} %
1350 4\or 5\or 6\or 7%
1351 \fi
1352 \HyPsd@DecimalToOctalSecond{#2}%
1353 \fi
1354 }

1355 \def\HyPsd@HighA#1!{%
1356 \expandafter\expandafter\expandafter\HyPsd@HighB
1357 \IntCalcDiv#1!64!!%
1358 \expandafter\expandafter\expandafter\HyPsd@HighD
1359 \IntCalcMod#1!64!!%
1360 }
1361 \def\HyPsd@HighB#1!{%
1362 \expandafter\expandafter\expandafter\HyPsd@HighC
1363 \IntCalcDec#1!!%
1364 }
1365 \def\HyPsd@HighC#1!{%
1366 \IntCalcDiv#1!4!%
1367 \@backslashchar
1368 \IntCalcMod#1!4!%
1369 }
1370 \def\HyPsd@HighD#1!{%
1371 \ifcase\IntCalcDiv#1!8! %
1372 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1373 \fi
1374 \ifcase\IntCalcMod#1!8! %
1375 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1376 \fi
1377 }
1378 \def\HyPsd@DecimalToOctalFirst#1{%
1379 \9%
1380 \ifcase#1 %
1381 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1382 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%

```

```

1383 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1384 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1385 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1386 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1387 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1388 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1389 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1390 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1391 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1392 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1393 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1394 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1395 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1396 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1397 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1398 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1399 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1400 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1401 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1402 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1403 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1404 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1405 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1406 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1407 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1408 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1409 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1410 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1411 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1412 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1413 \fi
1414 }
1415 \def\HyPsd@DecimalToOctalSecond#1{%
1416 \ifcase #1 %
1417 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1418 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1419 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1420 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1421 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1422 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1423 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1424 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1425 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1426 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1427 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1428 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1429 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1430 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1431 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1432 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1433 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1434 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1435 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1436 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1437 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1438 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1439 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%

```

```

1440 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1441 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1442 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1443 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1444 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1445 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1446 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1447 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1448 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1449 \fi
1450 }

1451 \def\HyPsd@CJkNumber#1{%
1452 \ifnum#1<\z@
1453 \CJK@minus
1454 \expandafter\HyPsd@@CJkNumber\expandafter{\number-\number#1}%
1455 \else
1456 \expandafter\HyPsd@@CJkNumber\expandafter{\number#1}%
1457 \fi
1458 }

1459 \def\HyPsd@@CJkNumber#1{%
1460 \ifcase#1 %
1461 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1462 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1463 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1464 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1465 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1466 \CJK@ten\CJK@nine
1467 \else
1468 \ifnum#1<10000 %
1469 \HyPsd@CJkNumberFour#1!\@empty{20}%
1470 \@empty
1471 \else
1472 \ifnum#1<100000000 %
1473 \expandafter\expandafter\expandafter\HyPsd@CJkNumberFour
1474 \IntCalcDiv#1!10000!%
1475 !\{20}%
1476 \CJK@tenthousand
1477 \expandafter\expandafter\expandafter\HyPsd@CJkNumberFour
1478 \IntCalcMod#1!10000!%
1479 !\CJK@zero{10}%
1480 \@empty
1481 \else
1482 \expandafter\HyPsd@CJkNumberLarge
1483 \number\IntCalcDiv#1!100000000!\expandafter!%
1484 \number\IntCalcMod#1!100000000!!%
1485 \fi
1486 \fi
1487 \fi
1488 }

1489 \def\HyPsd@CJkNumberLarge#1!#2!{%
1490 \HyPsd@CJkNumberFour#1!\{20}%
1491 \CJK@hundredmillion
1492 \ifnum#2=\z@
1493 \else
1494 \expandafter\expandafter\expandafter\HyPsd@CJkNumberFour
1495 \IntCalcDiv#2!10000!%
1496 !\CJK@zero{10}%

```

```

1497 \CJK@tenthousand
1498 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1499 \IntCalcMod#2!10000!%
1500 !\CJK@zero{10}%
1501 \@empty
1502 \fi
1503 }
1504 \def\HyPsd@CJKnumberFour#1!#2#3{%
1505 \ifnum#1=\z@
1506 \expandafter\@gobble
1507 \else
1508 \ifnum#1<1000 %
1509 #2%
1510 \HyPsd@CJKnumberThree#1!#{#3}%
1511 \else
1512 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1513 \CJK@thousand
1514 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1515 \IntCalcMod#1!1000!%
1516 !\CJK@zero{10}%
1517 \fi
1518 \fi
1519 }
1520 \def\HyPsd@CJKnumberThree#1!#2#3{%
1521 \ifnum#1=\z@
1522 \else
1523 \ifnum#1<100 %
1524 #2%
1525 \HyPsd@CJKnumberTwo#1!#{#3}%
1526 \else
1527 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1528 \CJK@hundred
1529 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1530 \IntCalcMod#1!100!%
1531 !\CJK@zero{10}%
1532 \fi
1533 \fi
1534 }
1535 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1536 \ifnum#1=\z@
1537 \else
1538 \ifnum#1<#3 %
1539 #2%
1540 \HyPsd@@CJKnumber{#1}%
1541 \else
1542 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1543 \CJK@ten
1544 \ifnum\IntCalcMod#1!10!=\z@
1545 \else
1546 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1547 \fi
1548 \fi
1549 \fi
1550 }

1551 \def\HyPsd@CJKdigits#1{%
1552 \ifx*#1\relax
1553 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero

```

```

1554 \else
1555   \HyPsd@@@CJKdigits\CJK@null{#1}%
1556 \fi
1557 }
1558 \def\HyPsd@@@CJKdigits#1#2{%
1559   \ifx\\#2\\%
1560   \else
1561     \HyPsd@@@CJKdigits#1#2\@nil
1562   \fi
1563 }%
1564 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1565   \HyPsd@CJKdigit#1{#2}%
1566   \ifx\\#3\\%
1567     \expandafter\@gobble
1568   \else
1569     \expandafter\@firstofone
1570   \fi
1571   {%
1572     \HyPsd@@@CJKdigits#1#3\@nil
1573   }%
1574 }
1575 \def\HyPsd@CJKdigit#1#2{%
1576   \ifcase#2 %
1577     #1\or
1578     \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1579     \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1580   \fi
1581 }

```

### 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
  \fi
}

```

```

\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}

1582 \def\HyPsd@inmathwarn#1#2{%
1583 \ifx#2\expandafter
1584 \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1585 \HyPsd@GLYPHERR
1586 \expandafter\@gobble\string#1%
1587 >%
1588 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1589 \else
1590 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1591 \fi
1592 \else
1593 \expandafter#2%
1594 \fi
1595 }
1596 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1597 \def\HyPsd@EndWithElse#1\else\else{}

\HyPsd@add@accent

1598 \def\HyPsd@add@accent#1#2{%
1599 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1600 #2%
1601 }%

```

### 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`.

```

1602 \def\HyPsd@LetUnexpandableSpace#1{%
1603 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1604 }

```

`\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.

```

1605 \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.

```
1606 \edef\HyPsd@XSPACE{\string#\string X}
1607 \edef\HyPsd@ITALCORR{\string#\string I}
1608 \edef\HyPsd@GLYPHERR{\string#\string G}
```

### 6.5.9 `\hspace fix`

`\HyPsd@hspace`

```
1609 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1610 \def\HyPsd@@hspace#1*#2\END{%
1611   \ifx\#2\%
1612     \HyPsd@hspacetest{#1}%
1613   \else
1614     \expandafter\HyPsd@hspacetest
1615   \fi
1616 }
```

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

```
1617 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

### 6.5.10 Fix for AMS classes

```
1618 \ltx@ifundefined{tocsection}{%
1619   \let\HyPsd@AMSclassfix\relax
1620 }{%
1621   \def\HyPsd@AMSclassfix{%
1622     \let\tocpart\HyPsd@tocsection
1623     \let\tocchapter\HyPsd@tocsection
1624     \let\tocappendix\HyPsd@tocsection
1625     \let\tocsection\HyPsd@tocsection
1626     \let\tocsubsection\HyPsd@tocsection
1627     \let\tocsubsubsection\HyPsd@tocsection
1628     \let\tocparagraph\HyPsd@tocsection
1629   }%
1630   \def\HyPsd@tocsection#1#2#3{%
1631     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1632     #3%
1633   }%
1634 }
```

### 6.5.11 Reference commands

`\HyPsd@href`

```
1635 \def\HyPsd@href#1#{\@secondoftwo}
```

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

```
1636 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1637 \def\HyPsd@@ref#1*#2\END{%
1638   \ifx\#2\%
1639     \HyPsd@@@ref{#1}%
1640   \else
1641     \expandafter\HyPsd@@@ref
1642   \fi
1643 }
```

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

```
1644 \def\HyPsd@@@ref#1{%
1645   \expandafter\ifx\csname r@#1\endcsname\relax
1646     ??%
1647   \else
1648     \expandafter\expandafter\expandafter
1649     \@car\csname r@#1\endcsname\@nil
1650   \fi
1651 }
```

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

```
1652 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1653 \def\HyPsd@@pageref#1*#2\END{%
1654   \ifx\#2\%
1655     \HyPsd@@@pageref{#1}%
1656   \else
1657     \expandafter\HyPsd@@@pageref
1658   \fi
1659 }
```

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

```
1660 \def\HyPsd@@@pageref#1{%
1661   \expandafter\ifx\csname r@#1\endcsname\relax
1662     ??%
1663   \else
1664     \expandafter\expandafter\expandafter\expandafter
1665     \expandafter\expandafter\expandafter\@car
1666     \expandafter\expandafter\expandafter\@gobble
1667     \csname r@#1\endcsname{}\@nil
1668   \fi
1669 }
```

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

```
1670 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```
1671 \def\HyPsd@@nameref#1*#2\END{%
1672   \ifx\#2\%
1673     \HyPsd@@@nameref{#1}%
1674   \else
1675     \expandafter\HyPsd@@@nameref
1676   \fi
1677 }
```

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

```
1678 \def\HyPsd@@@nameref#1{%
1679   \expandafter\ifx\csname r@#1\endcsname\relax
1680     ??%
1681   \else
1682     \expandafter\expandafter\expandafter\expandafter
1683     \expandafter\expandafter\expandafter\@car
1684     \expandafter\expandafter\expandafter\@gobbletwo
1685     \csname r@#1\endcsname\}\}\@nil
1686   \fi
1687 }
```

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

```
1688 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```
1689 \def\HyPsd@@autoref#1*#2\END{%
1690   \ifx\#2\%
1691     \HyPsd@@@autoref{#1}%
1692   \else
1693     \expandafter\HyPsd@@@autoref
1694   \fi
1695 }
```

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

```
1696 \def\HyPsd@@@autoref#1{%
1697   \expandafter\ifx\csname r@#1\endcsname\relax
1698     ??%
1699   \else
1700     \expandafter\expandafter\expandafter\HyPsd@autorefname
1701     \csname r@#1\endcsname\}\}\@nil
1702     \expandafter\expandafter\expandafter
1703     \@car\csname r@#1\endcsname\@nil
1704   \fi
1705 }
```

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

```
1706 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1707   \ifx\#4\%
1708   \else
1709     \HyPsd@@autorefname#4.\@nil
1710   \fi
1711 }
```

`\HyPsd@@autorefname`

```
1712 \def\HyPsd@@autorefname#1.#2\@nil{%
1713   \ltx@ifundefined{#1autorefname}{%
1714     \ltx@ifundefined{#1name}{%
1715       }{%
1716         \csname#1name\endcsname\space
1717       }%
1718     }{%
1719       \csname#1autorefname\endcsname\space
1720     }%
1721 }
```

## 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
1722 \begingroup
1723 \def\x#1#2{%
1724 \endgroup
1725 \let#1\def
1726 \def\HyPsd@DefCommand##1##2##3{%
1727   #1%
1728   \expandafter\noexpand
1729   \csname\expandafter\@gobble\string##1\@empty\endcsname
1730   \@gobble
1731 }%
1732 \let#2\let
1733 \def\HyPsd@LetCommand##1{%
1734   \expandafter\ifx\csname##1\expandafter\endcsname
1735   \csname iftrue\endcsname
1736   \pdfstringdefWarn\let
1737   \expandafter\@gobble
1738 \else
1739   \expandafter\ifx\csname##1\expandafter\endcsname
1740   \csname iffalse\endcsname
1741   \pdfstringdefWarn\let
1742   \expandafter\expandafter\expandafter\@gobble
1743 \else
1744   #2%
1745   \expandafter\noexpand
1746   \csname##1\expandafter\expandafter\expandafter\endcsname

```

```

1747     \fi
1748     \fi
1749   }%
1750 }%
1751 \expandafter\x\csname <def>-command\expandafter\endcsname
1752     \csname <let>-command\endcsname
1753 \def\HyPsd@LetCommand#1{%
1754   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1755     \expandafter\expandafter\expandafter{%
1756     \expandafter\@gobble\string#1\@empty
1757   }%
1758 }

```

### 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).

```

1759 \def\HyPsd@ifnextchar#1{%
1760   \pdfstringdefWarn#1%
1761   \expandafter\@gobbletwo\@gobble
1762 }

```

### 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`.

```

1763 \def\HyPsd@protected@testopt#1{%
1764   \pdfstringdefWarn#1%
1765   \@gobbletwo
1766 }

```

## 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:

```

1767 \def\HyPsd@Warning#1{%
1768   \begingroup
1769     \def\space{ }%
1770     \Hy@Warning{#1}%
1771   \endgroup
1772 }

```

## 6.6.2 Protecting spaces

```

1773 \RequirePackage{etexcmds}[2007/09/09]
1774 \ifetex@unexpanded
1775   \expandafter\@secondoftwo
1776 \else
1777   \expandafter\@firstoftwo
1778 \fi
1779 {%

```

`\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`.

```

1780   \def\HyPsd@ProtectSpaces#1{%
1781     \iftrue
1782       \expandafter\HyPsd@@ProtectSpacesFi
1783       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1784     \fi
1785   }%

```

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

```

1786   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1787     \fi
1788     \ifx\scrollmode#2\scrollmode
1789       \HyPsd@RemoveMask#1\HyPsd@End#3%
1790     \else
1791       \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1792       \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1793     \fi
1794   }%

```

### 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.

```

1795   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1796     \toks@ \expandafter{#1}%
1797     \xdef#2{\the\toks@}%
1798   }%

1799 }{%
1800   \let\HyPsd@fi\fi
1801   \def\HyPsd@ProtectSpaces#1{%
1802     \xdef#1{%
1803       \iftrue
1804         \expandafter\HyPsd@@ProtectSpacesFi
1805         \expandafter|\expandafter\@empty#1| %
1806       \HyPsd@fi
1807     }%
1808     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1809   }%
1810   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1811     \fi
1812     \etex@unexpanded{#1}%
1813     \ifx\scrollmode#2\scrollmode
1814     \else
1815       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%

```

```

1816 \HyPsd@fi
1817 }%
1818 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1819 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1820 }%
1821 }

```

### 6.6.3 Remove grouping braces

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

```

1822 \def\HyPsd@RemoveBraces#1{%
1823 \ifx\scrollmode#1\scrollmode
1824 \else
1825 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1826 \fi
1827 }

```

`\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`.

```

1828 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1829 \fi
1830 \def\Hy@temp@A{#1#2}%
1831 \def\Hy@temp@B{#3}%
1832 \ifx\Hy@temp@A\Hy@temp@B
1833 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1834 \HyPsd@String#1%
1835 }%
1836 \ifx\scrollmode#2\scrollmode
1837 \else
1838 \Hy@ReturnAfterFiFiEnd{%
1839 \HyPsd@RemoveBraces{#2}%
1840 }%
1841 \fi
1842 \else
1843 \def\Hy@temp@A{#1}%
1844 \HyPsd@AppendItalcrr\HyPsd@String
1845 \ifx\Hy@temp@A\@empty
1846 \Hy@ReturnAfterElseFiFiEnd{%
1847 \HyPsd@RemoveBraces{#2}%
1848 }%
1849 \else
1850 \HyPsd@ProtectSpaces\Hy@temp@A
1851 \HyPsd@AppendItalcrr\Hy@temp@A
1852 \Hy@ReturnAfterFiFiEnd{%
1853 \expandafter\HyPsd@RemoveBraces\expandafter
1854 {\Hy@temp@A#2}%
1855 }%
1856 \fi
1857 \fi

```

```

1858 \Hy@ReturnEnd
1859 }

```

\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.

```

1860 \def\HyPsd@AppendItalcrr#1{%
1861   \expandafter\HyPsd@@AppendItalcrr\expandafter{/}#1%
1862 }
1863 \def\HyPsd@@AppendItalcrr#1#2{%
1864   \expandafter\def\expandafter#2\expandafter{#2#1}%
1865 }

```

#### 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).

```

1866 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1867   \global\let\HyPsd@Rest\relax
1868   \ifcat\relax\noexpand#1\relax
1869     \ifx#1\protect
1870       \else
1871         \ifx#1\penalty
1872           \setbox\z@=\hbox{%
1873             \afterassignment\HyPsd@AfterCountRemove
1874             \count@=#2\HyPsd@End
1875           }%
1876         \else
1877           \ifx#1\kern
1878             \setbox\z@=\hbox{%
1879               \afterassignment\HyPsd@AfterDimenRemove
1880               \dimen@=#2\HyPsd@End
1881             }%
1882           \else
1883             \ifx#1\hskip
1884               \setbox\z@=\hbox{%
1885                 \afterassignment\HyPsd@AfterSkipRemove
1886                 \skip@=#2\HyPsd@End
1887               }%
1888             \else
1889               \HyPsd@CatcodeWarning{#1}%
1890             \fi
1891           \fi
1892         \fi
1893       \else
1894         \ifcat#1A% letter
1895           \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

1897     \HyPsd@String#1%
1898   }%
1899 \else
1900   \ifcat#1 % SPACE
1901     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1902       \HyPsd@String\HyPsd@SPACEOPTI
1903     }%
1904 \else
1905   \ifcat$#1%
1906     \HyPsd@CatcodeWarning{math shift}%
1907 \else
1908   \ifcat&#1%
1909     \HyPsd@CatcodeWarning{alignment tab}%
1910 \else
1911   \ifcat^#1%
1912     \HyPsd@CatcodeWarning{superscript}%
1913 \else
1914   \ifcat_#1%
1915     \HyPsd@CatcodeWarning{subscript}%
1916 \else
1917   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1918     \HyPsd@String#1%
1919   }%
1920 \fi
1921 \fi
1922 \fi
1923 \fi
1924 \fi
1925 \fi
1926 \fi
1927 \ifx\HyPsd@Rest\relax
1928   \ifx\scrollmode#2\scrollmode
1929 \else
1930   \Hy@ReturnAfterFiFiEnd{%
1931     \HyPsd@CheckCatcodes#2\HyPsd@End
1932   }%
1933 \fi
1934 \else
1935   \ifx\HyPsd@Rest\@empty
1936 \else
1937   \Hy@ReturnAfterFiFiEnd{%
1938     \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1939   }%
1940 \fi
1941 \fi
1942 \Hy@ReturnEnd
1943 }

```

### Remove counts, dimens, skips.

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

```

1944 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1945   \gdef\HyPsd@Rest{#1}%
1946 }

```

`\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.

```

1947 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1948   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>\fi>1ex %
1949     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1950     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1951   \else
1952     \ifdim\dimen@=\z@
1953     \else
1954       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1955     \fi
1956     \gdef\HyPsd@Rest{#1}%
1957   \fi
1958 }

```

`\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).

```

1959 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1960   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>\fi>1ex %
1961     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1962     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1963   \else
1964     \ifdim\skip@=\z@
1965     \else
1966       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1967     \fi
1968     \gdef\HyPsd@Rest{#1}%
1969   \fi
1970 }

```

### Catcode warnings.

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

```

1971 \def\HyPsd@CatcodeWarning#1{%
1972   \HyPsd@Warning{%
1973     Token not allowed in a PDF string (%
1974     \ifHy@unicode
1975       Unicode%
1976     \else
1977       PDFDocEncoding%
1978     \fi
1979   ):%
1980   \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1981 }%
1982 }
1983 \begingroup
1984   \catcode‘\|=0 %
1985   \catcode‘\|=12 %
1986   \gdef\HyPsd@RemoveCmdPrefix#1{%
1987     \expandafter\HyPsd@@RemoveCmdPrefix
1988     \string#1|@empty\<>-|@empty|@empty
1989   }%
1990   \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1991 \endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1992 \def\HyPsd@RemoveSpaceWarning#1{%
1993   \HyPsd@Warning{%
1994     Token not allowed in a PDF string (%)
1995     \ifHy@unicode
1996       Unicode%
1997     \else
1998       PDFDocEncoding%
1999     \fi
2000   }:%
2001   \MessageBreak #1\MessageBreak
2002   removed%
2003 }%
2004 }

```

\HyPsd@ReplaceSpaceWarning

```

2005 \def\HyPsd@ReplaceSpaceWarning#1{%
2006   \HyPsd@Warning{%
2007     Token not allowed in a PDF string (%)
2008     \ifHy@unicode
2009       Unicode%
2010     \else
2011       PDFDocEncoding%
2012     \fi
2013   }:%
2014   \MessageBreak #1\MessageBreak
2015   replaced by space%
2016 }%
2017 }

```

### 6.6.5 Check for wrong glyphs

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

```

2018 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2019   \expandafter\def\expandafter\HyPsd@String\expandafter{%
2020     \HyPsd@String#1%
2021   }%
2022   \ifx\#2\%
2023   \else
2024     \Hy@ReturnAfterFi{%
2025       \HyPsd@GlyphProcessWarning#2\@empty
2026     }%
2027   \fi
2028 }
2029 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2030   \HyPsd@@@GlyphProcessWarning#1++>%
2031   \HyPsd@GlyphProcess#2\@empty
2032 }
2033 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
2034   \ifx\#2\%
2035     \HyPsd@Warning{%
2036       Glyph not defined in %
2037       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2038       removing ‘\@backslashchar#1’%
2039     }%
2040   \else
2041     \HyPsd@Warning{%

```

```

2042     Composite letter '@backslashchar#1+#2'\MessageBreak
2043     not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2044     \MessageBreak
2045     removing '@backslashchar#1'%
2046   }%
2047 \fi
2048 }

```

### 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`.

```

2049 \def\HyPsd@spaceopti#1{ % first space
2050   \ifx\HyPsd@spaceopti#1%
2051     \040%
2052   \else
2053     #1%
2054   \fi
2055 }%

```

### 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.

2056 \def\HyPsd@Subst#1#2#3{%
2057   \def\HyPsd@@@ReplaceFi##1#1##2\END\fi{%
2058     \fi
2059     ##1%
2060     \ifx\scrollmode##2\scrollmode
2061     \else
2062       #2%
2063       \HyPsd@@@ReplaceFi##2\END
2064     \fi
2065   }%
2066   \xdef#3{%
2067     \iftrue
2068       \expandafter\HyPsd@@@ReplaceFi#3#1\END
2069     \fi
2070   }%
2071 }

```

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

```

2072 \def\HyPsd@StringSubst#1{%
2073   \expandafter\HyPsd@Subst\expandafter{\string#1}%
2074 }

```

`\HyPsd@EscapeTeX`

```

2075 \begingroup
2076 \lccode'\!='\%%
2077 \lccode'\|= '\%%

```

```

2078 \lccode'\(=\{\%
2079 \lccode'\)=\}%
2080 \lccode'0=\ltx@zero
2081 \lccode'1=\ltx@zero
2082 \lccode'3=\ltx@zero
2083 \lccode'4=\ltx@zero
2084 \lccode'5=\ltx@zero
2085 \lccode'7=\ltx@zero
2086 \lowercase{\endgroup
2087 \def\HyPsd@EscapeTeX#1{%
2088   \HyPsd@Subst!{|045}#1%
2089   \HyPsd@Subst({|173}#1%
2090   \HyPsd@Subst){|175}#1%
2091 }%
2092 }

```

### 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.

```

2093 \def\HyPsd@doxspace#1{%
2094   \ifx#1\relax\else
2095     \ifx#1.\else
2096       \ifx#1:\else
2097         \ifx#1,\else
2098           \ifx#1;\else
2099             \ifx#1!\else
2100               \ifx#1?\else
2101                 \ifx#1/\else
2102                   \ifx#1-\else
2103                     \ifx#1'\else
2104                       \HyPsd@SPACEOPTI
2105                     \fi
2106                   \fi
2107                 \fi
2108               \fi
2109             \fi
2110           \fi
2111         \fi
2112       \fi
2113     \fi
2114   \fi
2115   #1%
2116 }%

```

### 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.

```

2117 \begingroup
2118 \catcode'\|=0 %
2119 \catcode'\=12 %

```

`\HyPsd@ConvertToUnicode`

```

2120 |gdef|HyPsd@ConvertToUnicode#1{%
2121 |xdef#1{%
2122 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2123 }%
2124 |ifx#1|@empty
2125 |else
2126 |xdef#1{%
2127 \376\377%
2128 #1%
2129 }%
2130 |fi
2131 }%

```

\HyPsd@DoConvert

```

2132 |gdef|HyPsd@DoConvert#1{%
2133 |ifx#1|@empty
2134 |else
2135 |Hy@ReturnAfterFi{%
2136 |ifx#1\%%
2137 \%%
2138 |expandafter|HyPsd@DoEscape
2139 |else
2140 |HyPsd@Char{#1}%
2141 |expandafter|HyPsd@DoConvert
2142 |fi
2143 }%
2144 |fi
2145 }%

```

\HyPsd@DoEscape

```

2146 |gdef|HyPsd@DoEscape#1{%
2147 |ifx#19%
2148 |expandafter|HyPsd@GetTwoBytes
2149 |else
2150 |Hy@ReturnAfterFi{%
2151 |ifx#18%
2152 00%
2153 |expandafter|HyPsd@GetTwoBytes
2154 |else
2155 #1%
2156 |expandafter|HyPsd@GetOneByte
2157 |fi
2158 }%
2159 |fi
2160 }%

```

\HyPsd@GetTwoBytes

```

2161 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2162 #1\#2#3#4%
2163 |HyPsd@DoConvert
2164 }%

```

\HyPsd@GetOneByte

```

2165 |gdef|HyPsd@GetOneByte#1#2{%
2166 #1#2%
2167 |HyPsd@DoConvert
2168 }%

```

2169 |endgroup

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

```
2170 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%  
2171   \xdef#4{#4#1#2}%  
2172   \HyPsd@@ConvertToUnicode#3\END#4%  
2173 }
```

\HyPsd@Char

```
2174 \begingroup  
2175   \catcode0=9 %  
2176   \catcode'\^=7 %  
2177   \catcode'\^^=12 %  
2178   \def\x{^^^0000}%  
2179 \expandafter\endgroup  
2180 \ifx\x\@empty  
2181   \def\HyPsd@Char#1{%  
2182     \ifnum'#1<128 %  
2183       \@backslashchar 000#1%  
2184     \else  
2185       \ifnum'#1<65536 %  
2186         \expandafter\HyPsd@CharTwoByte\number'#1!%  
2187       \else  
2188         \expandafter\expandafter\expandafter\HyPsd@CharSurrogate  
2189         \intcalcSub{'#1}{65536}!%  
2190       \fi  
2191     \fi  
2192   }%  
2193 \def\HyPsd@CharTwoByte#1!{%  
2194   \expandafter\expandafter\expandafter\HyPsd@CharOctByte  
2195   \IntCalcDiv#1!256!!%  
2196   \expandafter\expandafter\expandafter\HyPsd@CharOctByte  
2197   \IntCalcMod#1!256!!%  
2198 }%  
2199 \def\HyPsd@CharOctByte#1!{%  
2200   \@backslashchar  
2201   \IntCalcDiv#1!64!%  
2202   \intcalcDiv{\IntCalcMod#1!64!}{8}%  
2203   \IntCalcMod#1!8!%  
2204 }%  
2205 \def\HyPsd@CharSurrogate#1!{%  
2206   \@backslashchar 33%  
2207   \IntCalcDiv#1!262144!%  
2208   \expandafter\expandafter\expandafter\HyPsd@CharOctByte  
2209   \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%  
2210   \@backslashchar 33%  
2211   \expandafter\expandafter\expandafter\IntCalcAdd  
2212   \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%  
2213   \expandafter\expandafter\expandafter\HyPsd@CharOctByte  
2214   \IntCalcMod#1!256!!%  
2215 }%  
2216 \else  
2217   \def\HyPsd@Char#1{%  
2218     \@backslashchar 000#1%  
2219   }%  
2220 \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

2221 \begingroup\expandafter\expandafter\expandafter\endgroup
2222 \expandafter\ifx\csname numexpr\endcsname\relax
2223   \let\HyPsd@UTFviii\relax
2224 \else
2225   \begingroup
2226     \lccode'\~='^f4\relax
2227   \lowercase{\endgroup
2228     \def\HyPsd@UTFviii{%
2229       \let\UTFviii@two@octets\HyPsd@UTFviii@two
2230       \let\UTFviii@three@octets\HyPsd@UTFviii@three
2231       \let\UTFviii@four@octets\HyPsd@UTFviii@four
2232       \ifx~\HyPsd@UTFviii@ccxliv@undef
2233         \let~\HyPsd@UTFviii@ccxliv@def
2234       \fi
2235       \let\unichar\HyPsd@unichar
2236     }%
2237   }%
2238   \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2239   \edef\HyPsd@UTFviii@ccxliv@def{%
2240     \noexpand\UTFviii@four@octets\string ^f4%
2241   }%
```

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.

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

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

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

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

$$(5)$$

```

2242 \def\HyPsd@UTFviii@two#1#2{%
2243   \expandafter\HyPsd@UTFviii@@two
2244   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2245   \number'#1\expandafter| %
2246   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2247   \number'#2 \@nil
2248 }%
2249 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2250   \expandafter\8%
2251   \number\numexpr #1-48\expandafter\relax
2252   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2253   \number\numexpr #3-8*%
```

```

2254 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2255 \number\dimexpr #4-8*#3\relax
2256 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2257 \def\HyPsd@UTFviii@three#1#2#3{%
2258 \expandafter\HyPsd@UTFviii@three
2259 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2260 \number'#1\expandafter| %
2261 \number\ifnum\dimexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2262 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2263 \number'#2\expandafter| %
2264 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2265 \number'#3 \@nil
2266 }%
2267 \def\HyPsd@UTFviii@four#1#2#3#4#5#6#7\@nil{%
2268 \expandafter\9%
2269 \number\dimexpr #1-56\expandafter\relax
2270 \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
2271 \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2272 \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
2273 \number\dimexpr #6-16\expandafter\relax
2274 \number\dimexpr #7-8*#6\relax
2275 }%

```

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

```

```

2276 \def\HyPsd@UTFviii@four#1#2#3#4{%
2277 \expandafter\HyPsd@UTFviii@four\number
2278 \dimexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2279 \expandafter|\number
2280 \dimexpr'#2-16*\dimexpr.0625\dimexpr'#3sp| %
2281 }%
2282 \def\HyPsd@UTFviii@four#1#2#3#4{%
2283 \933\number\dimexpr.25\dimexpr'#1sp\relax\relax
2284 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr'#1sp\endcsname
2285 \ifodd#2 %
2286 \number\dimexpr(#2-1)/2\relax
2287 \else
2288 \number\dimexpr#2/2\relax
2289 \fi

```

```

2290 \number\numexpr\ifodd#2 4+\fi
2291 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2292 \933%
2293 \expandafter\HyPsd@@@UTFviii@four\number
2294 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2295 }%
2296 \def\HyPsd@@@UTFviii@four#1|#2{%
2297 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2298 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2299 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2300 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2301 }%

```

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

```

2302 \def\HyPsd@unichar#1{%
2303 \ifHy@unicode
2304 \ifnum#1>"10FFFF %
2305 \HyPsd@UnicodeReplacementCharacter % illegal
2306 \else
2307 \ifnum#1>"FFFF %

```

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

```

2308 \expandafter\HyPsd@unichar\expandafter{%
2309 \number\numexpr 55296+%
2310 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2311 \relax\relax\relax
2312 }%

```

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

```

2313 \expandafter\HyPsd@unichar\expandafter{%
2314 \number\numexpr#1-9216%
2315 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2316 \relax\relax\relax
2317 }%
2318 \else
2319 \ifnum#1>"7FF %
2320 \9%
2321 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2322 \number
2323 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2324 }%
2325 \else
2326 \8%
2327 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2328 \fi
2329 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2330 \number
2331 \numexpr#1-256*\number
2332 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2333 }%
2334 \fi
2335 \fi
2336 \else
2337 .% unsupported (Unicode -> PDF Doc Encoding)
2338 \fi
2339 }%
2340 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%

```

```

2341 \def\HyPsd@unichar@first@byte#1{%
2342 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2343 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2344 \number
2345 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2346 \relax\relax\relax
2347 }%
2348 }%
2349 \def\HyPsd@unichar@second@byte#1{%
2350 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2351 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2352 \number
2353 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2354 \relax\relax\relax
2355 }%
2356 }%
2357 \def\HyPsd@unichar@octtwo#1{%
2358 \number\dimexpr.125\dimexpr#1sp\relax\relax
2359 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2360 \relax\relax\relax
2361 }%
2362 \fi

```

\HyPsd@utf@viii@undeferr \utf@viii@undeferr comes from file utf8x.def from package ucs.

```

2363 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2364 \ifx\@gobble#1%
2365 \else
2366 [Please insert \textbackslash PrerenderUnicode%
2367 \textbraceleft#1\textbraceright\space
2368 into preamble]%
2369 \fi
2370 }%

```

## 7 Support of other packages

### 7.1 Class memoir

```

2371 \@ifclassloaded{memoir}{%
2372 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}%
2373 }{}

```

### 7.2 Package subfigure

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

```

2374 \@ifpackageloaded{subfigure}{%
2375 \ltx@ifundefined{sub@label}{%
2376 \Hy@hypertextnamesfalse
2377 }{%
2378 \renewcommand*{\sub@label}[1]{%
2379 \@bsphack
2380 \subfig@oldlabel{#1}%
2381 \if@filesw
2382 \beginngroup
2383 \edef\@currentlabstr{%
2384 \expandafter\strip@prefix\meaning\@currentlabelname
2385 }%

```

```

2386 \protected@write\@auxout{}\{}%
2387 \string\newlabel{sub@#1}\{}%
2388 {\@nameuse{@@thesub\@capytype}}%
2389 {\thepage}%
2390 {\%
2391 \expandafter\strip@period\@currentlabstr
2392 \relax.\relax\@@@%
2393 }%
2394 {\@currentHref}%
2395 {\}%
2396 }%
2397 }%
2398 \endgroup
2399 \fi
2400 \@esphack
2401 }%
2402 \@ifpackagelater{subfigure}{2002/03/26}\{}%
2403 \providecommand*\@toclevel@subfigure{1}%
2404 \providecommand*\@toclevel@subtable{1}%
2405 }%
2406 }%
2407 }\}

```

### 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:

```

2408 \ltx@ifundefined{XR@addURL}\{}%
2409 }\{}%

```

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.

```

2410 \def\xr@addURL#1{\xr@@dURL#1\}\}\}\%
2411 \def\xr@@dURL#1#2#3#4#5\{\%
2412 {#1}\{#2}%
2413 \if!#4!%
2414 \else
2415 {#3}\{#4}\{XR@URL}%
2416 \fi
2417 }%
2418 }

2419 \def\Hy@true{true}
2420 \def\Hy@false{false}

```

Providing dummy definitions.

```

2421 \let\literalps@out\@gobble
2422 \newcommand\pdfbookmark[3]{}
2423 \def\Acrobatmenu#1#2{\leavevmode#2}
2424 \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

```
2425 \let\HyperRaiseLinkHook\@empty
2426 \def\HyperRaiseLinkDefault{\baselineskip}
```

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

```
2427 \newcount\Hy@SavedSpaceFactor
2428 \def\Hy@SaveSpaceFactor{%
2429   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2430 }
2431 \def\Hy@RestoreSpaceFactor{%
2432   \relax
2433   \ifhmode
2434     \ifnum\Hy@SavedSpaceFactor>\z@
2435       \spacefactor=\Hy@SavedSpaceFactor
2436     \fi
2437   \fi
2438 }
2439 \def\Hy@SaveSavedSpaceFactor{%
2440   \edef\Hy@RestoreSavedSpaceFactor{%
2441     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2442   }%
2443 }
2444 \def\Hy@raisedlink#1{%
2445   \ifvmode
2446     #1%
2447   \else
2448     \Hy@SaveSpaceFactor
2449     \penalty\@M
2450     \smash{%
2451       \begingroup
2452         \let\HyperRaiseLinkLength\@tempdima
2453         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2454         \HyperRaiseLinkHook
2455         \expandafter\endgroup
2456         \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2457           \Hy@RestoreSpaceFactor
2458           #1%
2459           \Hy@SaveSpaceFactor
2460         }%
2461       }%
2462     \Hy@RestoreSpaceFactor
2463   \fi
2464 }
```

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

```
2465 \def\Hy@SaveLastskip{%
2466   \let\Hy@RestoreLastskip\relax
2467   \ifvmode
2468     \ifdim\lastskip=\z@
2469       \let\Hy@RestoreLastskip\nobreak
2470     \else
```

```

2471 \begingroup
2472 \skip@=-\lastskip
2473 \edef\x{%
2474 \endgroup
2475 \def\noexpand\Hy@RestoreLastskip{%
2476 \noexpand\ifvmode
2477 \noexpand\nobreak
2478 \vskip\the\skip@
2479 \vskip\the\lastskip\relax
2480 \noexpand\fi
2481 }%
2482 }%
2483 \x
2484 \fi
2485 \else
2486 \ifhmode
2487 \ifdim\lastskip=\z@
2488 \let\Hy@RestoreLastskip\nobreak
2489 \else
2490 \begingroup
2491 \skip@=-\lastskip
2492 \edef\x{%
2493 \endgroup
2494 \def\noexpand\Hy@RestoreLastskip{%
2495 \noexpand\ifhmode
2496 \noexpand\nobreak
2497 \hskip\the\skip@
2498 \hskip\the\lastskip\relax
2499 \noexpand\fi
2500 }%
2501 }%
2502 \x
2503 \fi
2504 \fi
2505 \fi
2506 }%

```

## 9 Options

```

2507 \SetupKeyvalOptions{%
2508 family=Hyp,%
2509 prefix=HyOpt%
2510 }

```

### 9.1 Help macros

\Hy@boolkey

```

2511 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
2512 \def\Hy@@boolkey[#1]#2#3{%
2513 \edef\Hy@tempa{#3}%
2514 \lowercase\expandafter{%
2515 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2516 }%
2517 \ifx\Hy@tempa\@empty
2518 \let\Hy@tempa\Hy@true
2519 \fi
2520 \ifx\Hy@tempa\Hy@true

```

```

2521 \else
2522 \ifx\Hy@tempa\Hy>false
2523 \else
2524 \let\Hy@tempa\relax
2525 \fi
2526 \fi
2527 \ifx\Hy@tempa\relax
2528 \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
2529 \else
2530 \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2531 \csname Hy@#2\Hy@tempa\endcsname
2532 \fi
2533 }

```

\Hy@WarnOptionValue

```

2534 \def\Hy@WarnOptionValue#1#2#3{%
2535 \Hy@Warning{%
2536 Unexpected value ‘#1’\MessageBreak
2537 of option ‘#2’ instead of\MessageBreak
2538 #3%
2539 }%
2540 }

```

\Hy@DisableOption

```

2541 \def\Hy@DisableOption#1{%
2542 \@ifundefined{KV@Hyp@#1@default}{%
2543 \define@key{Hyp}{#1}%
2544 }{%
2545 \define@key{Hyp}{#1}[]%
2546 }%
2547 {\Hy@WarnOptionDisabled{#1}}%
2548 }

```

\Hy@WarnOptionDisabled

```

2549 \def\Hy@WarnOptionDisabled#1{%
2550 \Hy@Warning{%
2551 Option ‘#1’ has already been used,\MessageBreak
2552 setting the option has no effect%
2553 }%
2554 }

```

\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.

```

2555 \def\Hy@CheckOptionValue#1#2#3{%
2556 \begingroup
2557 \edef\x{#1}%
2558 \@onelevel@sanitize\x
2559 \let\y=y%
2560 \def\do##1##2{%
2561 \def\z{##1}%
2562 \@onelevel@sanitize\z
2563 \ifx\x\z
2564 \let\y=n%
2565 \let\do\@gobbletwo
2566 \fi
2567 }%
2568 #3%

```

```

2569 \ifx\y y%
2570 \def\do##1##2{%
2571   * '##1'%
2572   \ifx\\##2\\\else\space(##2)\fi
2573   \MessageBreak
2574 }%
2575 \Hy@Warning{%
2576   Values of option '#2':\MessageBreak
2577   ##3%
2578   * An empty value disables the option.\MessageBreak
2579   Unknown value '\x'%
2580 }%
2581 \fi
2582 \endgroup
2583 }

```

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

```

2584 \def\Hy@DefNameKey#1{%
2585   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2586 }

```

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

```

2587 \def\Hy@@DefNameKey#1#2#3{%
2588   \define@key{Hyp}{#2}{%
2589     \edef#1{##1}%
2590     \ifx#1\@empty
2591     \else
2592       \Hy@CheckOptionValue{##1}{#2}{#3}%
2593     \fi
2594   }%
2595   \let#1\@empty
2596 }

```

`\Hy@UseNameKey`

```

2597 \def\Hy@UseNameKey#1#2{%
2598   \ifx#2\@empty
2599   \else
2600     /#1/#2%
2601   \fi
2602 }

```

## 9.2 Defining the options

```

2603 \define@key{Hyp}{implicit}[true]{%
2604   \Hy@boolkey{implicit}{#1}%
2605 }
2606 \define@key{Hyp}{draft}[true]{%
2607   \Hy@boolkey{draft}{#1}%
2608 }
2609 \define@key{Hyp}{final}[true]{%
2610   \Hy@boolkey{final}{#1}%
2611 }

```

```

2612 \let\KV@Hyp@nolinks\KV@Hyp@draft
2613 \def\Hy@ObsoletePaperOption#1{%
2614   \Hy@WarningNoLine{%
2615     Option '#1' is no longer used%
2616   }%
2617   \define@key{Hyp}{#1}[true]{}%
2618 }
2619 \def\Hy@temp#1{%
2620   \define@key{Hyp}{#1}[true]{%
2621     \Hy@ObsoletePaperOption{#1}%
2622   }%
2623 }
2624 \Hy@temp{a4paper}
2625 \Hy@temp{a5paper}
2626 \Hy@temp{b5paper}
2627 \Hy@temp{letterpaper}
2628 \Hy@temp{legalpaper}
2629 \Hy@temp{executivepaper}

2630 \define@key{Hyp}{setpagesize}[true]{%
2631   \Hy@boolkey{setpagesize}{#1}%
2632 }
2633 \define@key{Hyp}{debug}[true]{%
2634   \Hy@boolkey[debug]{verbose}{#1}%
2635 }
2636 \define@key{Hyp}{linktocpage}[true]{%
2637   \Hy@boolkey{linktocpage}{#1}%
2638   \ifHy@linktocpage
2639     \let\Hy@linktoc\Hy@linktoc@page
2640   \else
2641     \let\Hy@linktoc\Hy@linktoc@section
2642   \fi
2643 }
2644 \chardef\Hy@linktoc@none=0 %
2645 \chardef\Hy@linktoc@section=1 %
2646 \chardef\Hy@linktoc@page=2 %
2647 \chardef\Hy@linktoc@all=3 %
2648 \ifHy@linktocpage
2649   \let\Hy@linktoc\Hy@linktoc@page
2650 \else
2651   \let\Hy@linktoc\Hy@linktoc@section
2652 \fi
2653 \define@key{Hyp}{linktoc}{%
2654   \@ifundefined{Hy@linktoc@#1}{%
2655     \Hy@Warning{%
2656       Unexpected value '#1' of\MessageBreak
2657       option 'linktoc' instead of 'none',\MessageBreak
2658       'section', 'page' or 'all'%
2659     }%
2660   }{%
2661     \expandafter\let\expandafter\Hy@linktoc
2662     \csname Hy@linktoc@#1\endcsname
2663   }%
2664 }
2665 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2666 \let\XR@ext\relax
2667 \define@key{Hyp}{verbose}[true]{%
2668   \Hy@boolkey{verbose}{#1}%

```

```

2669 }
2670 \define@key{Hyp}{typexml}[true]{%
2671   \Hy@boolkey{typexml}{#1}%
2672 }

```

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.

```

2673 \define@key{Hyp}{raiselinks}[true]{%
2674   \Hy@boolkey{raiselinks}{#1}%
2675 }

```

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

```

2676 \def\Hy@setbreaklinks#1{%
2677   \csname breaklinks#1\endcsname
2678 }

2679 \def\Hy@breaklinks@unsupported{%
2680   \ifx\Hy@setbreaklinks\@gobble
2681     \ifHy@breaklinks
2682       \Hy@WarningNoLine{%
2683         You have enabled option 'breaklinks'.\MessageBreak
2684         But driver '\Hy@driver.def' does not support this.\MessageBreak
2685         Expect trouble with the link areas of broken links%
2686       }%
2687     \fi
2688   \fi
2689 }

2690 \define@key{Hyp}{breaklinks}[true]{%
2691   \Hy@boolkey{breaklinks}{#1}%
2692   \let\Hy@setbreaklinks\@gobble
2693 }

2694 \define@key{Hyp}{localanchorname}[true]{%
2695   \Hy@boolkey{localanchorname}{#1}%
2696 }

```

Determines whether an automatic anchor is put on each page

```

2697 \define@key{Hyp}{pageanchor}[true]{%
2698   \Hy@boolkey{pageanchor}{#1}%
2699 }

```

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.

```

2700 \define@key{Hyp}{plainpages}[true]{%
2701   \Hy@boolkey{plainpages}{#1}%
2702 }

```

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

```

2703 \define@key{Hyp}{naturalnames}[true]{%
2704   \Hy@boolkey{naturalnames}{#1}%
2705 }

```

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

```

2706 \define@key{Hyp}{hypertexnames}[true]{%
2707   \Hy@boolkey{hypertexnames}{#1}%
2708 }

```

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

```

2709 \define@key{Hyp}{nesting}[true]{%
2710   \Hy@boolkey{nesting}{#1}%
2711 }

2712 \define@key{Hyp}{unicode}[true]{%
2713   \Hy@boolkey{unicode}{#1}%
2714   \ifHy@unicode
2715     \def\HyPsd@pdfencoding{unicode}%
2716     \HyPsd@LoadUnicode
2717   \else
2718     \def\HyPsd@pdfencoding{pdfdoc}%
2719   \fi
2720 }

2721 \def\HyPsd@LoadUnicode{%
2722   \@ifundefined{T@PU}{%
2723     \input{puenc.def}%
2724     \HyLinguex@Restore
2725   }{}%
2726   \DeclareFontFamily{PU}{pdf}{}%
2727   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2728   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2729   \global\let\HyPsd@LoadUnicode\relax
2730 }

2731 \Hy@AtBeginDocument{%
2732   \ifx\HyPsd@LoadUnicode\relax
2733   \else
2734     \def\HyPsd@LoadUnicode{%
2735       \Hy@Error{%
2736         Unicode support for bookmarks is not available.\MessageBreak
2737         Activate unicode support by using one of the options\MessageBreak
2738         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2739         in the preamble%
2740       }\@ehc
2741       \global\let\HyPsd@LoadUnicode\relax
2742       \global\Hy@unicodedefalse
2743       \global\let\Hy@unicodetrue\Hy@unicodedefalse
2744     }%
2745   \fi
2746 }

2747 \define@key{Hyp}{pdfencoding}{%
2748   \edef\HyPsd@temp{#1}%
2749   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2750     \let\HyPsd@pdfencoding\HyPsd@temp
2751     \Hy@unicodedefalse
2752   \else
2753     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2754       \z@
2755     \else
2756       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2757         \z@
2758       \else
2759         \@ne
2760       \fi
2761     \fi
2762     \let\HyPsd@pdfencoding\HyPsd@temp
2763     \hypersetup{unicode}%
2764     \ifHy@unicode
2765       \def\HyPsd@pdfencoding{#1}%

```

```

2766 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2767 \HyPsd@LoadStringEnc
2768 \fi
2769 \else
2770 \Hy@Warning{Cannot switch to unicode bookmarks}%
2771 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2772 \fi
2773 \else
2774 \@onelevel@sanitize\HyPsd@temp
2775 \Hy@Warning{%
2776 Values of option 'pdfencoding':\MessageBreak
2777 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2778 Ignoring unknown value '\HyPsd@temp'%
2779 }%
2780 \fi
2781 \fi
2782 }
2783 \def\HyPsd@pdfencoding@auto{auto}
2784 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2785 \def\HyPsd@pdfencoding@unicode{unicode}
2786 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2787 \def\HyPsd@LoadStringEnc{%
2788 \RequirePackage{stringenc}[2009/12/15]%
2789 \let\HyPsd@LoadStringEnc\relax
2790 }
2791 \Hy@AtBeginDocument{%
2792 \@ifpackageloaded{stringenc}{%
2793 \let\HyPsd@LoadStringEnc\relax
2794 }{%
2795 \def\HyPsd@LoadStringEnc{%
2796 \Hy@WarningNoLine{%
2797 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2798 in the preamble or load the package there%
2799 }%
2800 }%
2801 }%
2802 }
2803 \def\hypersetup{\kvsetkeys{Hyp}}
2804 \newif\ifHy@setpdfversion
2805 \define@key{Hyp}{pdfversion}{%
2806 \@ifundefined{Hy@pdfversion@#1}{%
2807 \PackageWarning{hyperref}{%
2808 Unsupported PDF version '#1'.\MessageBreak
2809 Valid values: 1.2 until 1.9%
2810 }%
2811 }{%
2812 \Hy@setpdfversiontrue
2813 \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2814 }%
2815 }
2816 \@namedef{Hy@pdfversion@1.2}{2}%
2817 \@namedef{Hy@pdfversion@1.3}{3}%
2818 \@namedef{Hy@pdfversion@1.4}{4}%
2819 \@namedef{Hy@pdfversion@1.5}{5}%
2820 \@namedef{Hy@pdfversion@1.6}{6}%
2821 \@namedef{Hy@pdfversion@1.7}{7}%
2822 \@namedef{Hy@pdfversion@1.8}{8}%

```

```

2823 \@namedef{Hy@pdfversion@1.9}{9}%
2824 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

2825 \newif\ifHy@DviMode
2826 \let\Hy@DviErrMsg\ltx@empty
2827 \ifpdf
2828   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2829 \else
2830   \ifxetex
2831     \def\Hy@DviErrMsg{XeTeX is running}%
2832   \else
2833     \ifvtex
2834       \ifvtexdvi
2835         \Hy@DviModetrue
2836       \else
2837         \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2838       \fi
2839     \else
2840       \Hy@DviModetrue
2841     \fi
2842   \fi
2843 \fi
2844 \def\HyOpt@CheckDvi#1{%
2845   \ifHy@DviMode
2846     \expandafter\ltx@firstofone
2847   \else
2848     \Hy@Error{%
2849       Wrong DVI mode driver option ‘#1’,\MessageBreak
2850       because \Hy@DviErrMsg
2851     }\@ehc
2852     \expandafter\ltx@gobble
2853   \fi
2854 }
2855 \DeclareVoidOption{tex4ht}{%
2856   \Hy@texhttrue
2857   \kvsetkeys{Hyp}{colorlinks=true}%
2858   \def\BeforeTeXIVht{\RequirePackage{color}}}%
2859 \def\Hy@driver{htex4ht}%
2860 \def\MaybeStopEarly{%
2861   \Hy@Message{Stopped early}%
2862   \Hy@AtBeginDocument{%
2863     \PDF@FinishDoc
2864     \gdef\PDF@FinishDoc{}%
2865   }%
2866   \endinput
2867 }%
2868 }
2869 \DeclareVoidOption{pdftex}{%
2870   \ifpdf
2871     \def\Hy@driver{hpdftex}%
2872   \else
2873     \Hy@Error{%
2874       Wrong driver option ‘pdftex’,\MessageBreak
2875       because pdfTeX in PDF mode is not detected%
2876     }\@ehc

```

```

2877 \fi
2878 }
2879 \DeclareVoidOption{nativepdf}{%
2880 \HyOpt@CheckDvi{nativepdf}{%
2881 \def\Hy@driver{hdvips}%
2882 }%
2883 }
2884 \DeclareVoidOption{dvipdfm}{%
2885 \HyOpt@CheckDvi{dvipdfm}{%
2886 \def\Hy@driver{hdvipdfm}%
2887 }%
2888 }
2889 \DeclareVoidOption{dvipdfmx}{%
2890 \HyOpt@CheckDvi{dvipdfmx}{%
2891 \def\Hy@driver{hdvipdfm}%
2892 }%
2893 }
2894 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2895 \expandafter\ifx\csname if#1\expandafter\endcsname
2896 \csname iftrue\endcsname
2897 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2898 \else
2899 \chardef\SpecialDvipdfmxOutlineOpen\z@
2900 \fi
2901 }
2902 \DeclareVoidOption{xetex}{%
2903 \ifxetex
2904 \def\Hy@driver{hxetex}%
2905 \else
2906 \Hy@Error{%
2907 Wrong driver option 'xetex',\MessageBreak
2908 because XeTeX is not detected%
2909 }\@ehc
2910 \fi
2911 }
2912 \DeclareVoidOption{pdfmark}{%
2913 \HyOpt@CheckDvi{pdfmark}{%
2914 \def\Hy@driver{hdvips}%
2915 }%
2916 }
2917 \DeclareVoidOption{dvips}{%
2918 \HyOpt@CheckDvi{dvips}{%
2919 \def\Hy@driver{hdvips}%
2920 }%
2921 }
2922 \DeclareVoidOption{hypertex}{%
2923 \HyOpt@CheckDvi{hypertex}{%
2924 \def\Hy@driver{hypertex}%
2925 }%
2926 }
2927 \let\Hy@MaybeStopNow\relax
2928 \DeclareVoidOption{vtex}{%
2929 \ifvtex
2930 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2931 \def\Hy@driver{hvtex}%
2932 \else
2933 \ifnum\OpMode=10\relax

```

```

2934 \def\Hy@driver{hvtexhtm}%
2935 \def\MaybeStopEarly{%
2936   \Hy@Message{Stopped early}%
2937   \Hy@AtBeginDocument{%
2938     \PDF@FinishDoc
2939     \gdef\PDF@FinishDoc{}}%
2940   }%
2941   \endinput
2942 }%
2943 \else
2944   \Hy@Error{%
2945     Wrong driver option 'vtex',\MessageBreak
2946     because of wrong OpMode (\the\OpMode)%
2947   }\@ehc
2948 \fi
2949 \fi
2950 \else
2951   \Hy@Error{%
2952     Wrong driver option 'vtex',\MessageBreak
2953     because VTeX is not running%
2954   }\@ehc
2955 \fi
2956 }
2957 \DeclareVoidOption{vtexpdfmark}{%
2958   \ifvtex
2959     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2960     \def\Hy@driver{hvtexmrk}%
2961   \else
2962     \Hy@Error{%
2963       Wrong driver option 'vtexpdfmark',\MessageBreak
2964       because of wrong OpMode (\the\OpMode)%
2965     }\@ehc
2966   \fi
2967 \else
2968   \Hy@Error{%
2969     Wrong driver option 'vtexpdfmark,\MessageBreak
2970     because VTeX is not running%
2971   }\@ehc
2972 \fi
2973 }
2974 \DeclareVoidOption{dviwindo}{%
2975   \HyOpt@CheckDvi{dviwindo}{%
2976     \def\Hy@driver{hdviwind}%
2977     \kvsetkeys{Hyp}{colorlinks}%
2978     \PassOptionsToPackage{dviwindo}{color}%
2979   }%
2980 }
2981 \DeclareVoidOption{dvipsone}{%
2982   \HyOpt@CheckDvi{dvipsone}{%
2983     \def\Hy@driver{hdvipson}%
2984   }%
2985 }
2986 \DeclareVoidOption{textures}{%
2987   \HyOpt@CheckDvi{textures}{%
2988     \def\Hy@driver{htexture}%
2989   }%
2990 }

```

```

2991 \DeclareVoidOption{latex2html}{%
2992   \HyOpt@CheckDvi{latex2html}{%
2993     \Hy@AtBeginDocument{\@@@latex2htmlX}%
2994   }%
2995 }

```

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

```

2996 \DeclareVoidOption{ps2pdf}{%
2997   \HyOpt@CheckDvi{ps2pdf}{%
2998     \def\Hy@driver{hdvips}%
2999   }%
3000 }

3001 \let\HyOpt@DriverFallback\ltx@empty
3002 \define@key{Hyp}{driverfallback}{%
3003   \ifHy@DviMode
3004     \def\HyOpt@DriverFallback{#1}%
3005     \Hy@Match\HyOpt@DriverFallback{%
3006       ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3007       latex2html|tex4ht)$%
3008     }{}%
3009     \let\HyOpt@DriverFallback\ltx@empty
3010   }%
3011 \fi
3012 }

```

## 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.

```

3013 \define@key{Hyp}{hyperfigures}[true]{%
3014   \Hy@boolkey[hyperfigures]{figures}{#1}%
3015 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3016 \define@key{Hyp}{hyperfootnotes}[true]{%
3017   \Hy@boolkey[hyperfootnotes]{#1}%
3018 }

```

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

```

3019 \def\back@none{none}
3020 \def\back@section{section}
3021 \def\back@page{page}
3022 \def\back@slide{slide}
3023 \define@key{Hyp}{backref}[section]{%
3024   \lowercase{\def\Hy@tempa{#1}}%
3025   \ifx\Hy@tempa\@empty
3026     \let\Hy@tempa\back@section
3027   \fi
3028   \ifx\Hy@tempa\Hy@false
3029     \let\Hy@tempa\back@none
3030   \fi
3031   \ifx\Hy@tempa\back@slide
3032     \let\Hy@tempa\back@section
3033   \fi
3034   \ifx\Hy@tempa\back@page
3035     \PassOptionsToPackage{hyperpageref}{backref}%
3036     \Hy@backreftrue
3037   \else

```

```

3038 \ifx\Hy@tempa\back@section
3039 \PassOptionsToPackage{hyperref}{backref}%
3040 \Hy@backreftrue
3041 \else
3042 \ifx\Hy@tempa\back@none
3043 \Hy@backreffalse
3044 \else
3045 \Hy@WarnOptionValue{#1}{backref}{%
3046 'section', 'slide', 'page', 'none',\MessageBreak
3047 or 'false'}%
3048 \fi
3049 \fi
3050 \fi
3051 }
3052 \define@key{Hyp}{pagebackref}[true]{%
3053 \edef\Hy@tempa{#1}%
3054 \lowercase\expandafter{%
3055 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3056 }%
3057 \ifx\Hy@tempa\@empty
3058 \let\Hy@tempa\Hy>true
3059 \fi
3060 \ifx\Hy@tempa\Hy>true
3061 \PassOptionsToPackage{hyperpageref}{backref}%
3062 \Hy@backreftrue
3063 \else
3064 \ifx\Hy@tempa\Hy>false
3065 \Hy@backreffalse
3066 \else
3067 \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
3068 \fi
3069 \fi
3070 }

```

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

```

3071 \define@key{Hyp}{hyperindex}[true]{%
3072 \Hy@boolkey{hyperindex}{#1}%
3073 }

```

Configuration of encap char.

```

3074 \define@key{Hyp}{encap}[|]{%
3075 \def\HyInd@EncapChar{#1}%
3076 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

3077 \def\HyLang@afrikaans{%
3078 \def\equationautorefname{Vergelyking}%
3079 \def\footnoteautorefname{Voetnota}%
3080 \def\itemautorefname{Item}%
3081 \def\figureautorefname{Figuur}%
3082 \def\tableautorefname{Tabel}%
3083 \def\partautorefname{Deel}%
3084 \def\appendixautorefname{Bylae}%
3085 \def\chapterautorefname{Hoofstuk}%

```

```

3086 \def\sectionautorefname{Afdeling}%
3087 \def\subsectionautorefname{Subafdeling}%
3088 \def\subsubsectionautorefname{Subsubafdeling}%
3089 \def\paragraphautorefname{Paragraaf}%
3090 \def\subparagraphautorefname{Subparagraaf}%
3091 \def\FancyVerbLineautorefname{Lyn}%
3092 \def\theoremautorefname{Teorema}%
3093 \def\pageautorefname{Bladsy}%
3094 }
3095 \def\HyLang@english{%
3096 \def\equationautorefname{Equation}%
3097 \def\footnoteautorefname{footnote}%
3098 \def\itemautorefname{item}%
3099 \def\figureautorefname{Figure}%
3100 \def\tableautorefname{Table}%
3101 \def\partautorefname{Part}%
3102 \def\appendixautorefname{Appendix}%
3103 \def\chapterautorefname{chapter}%
3104 \def\sectionautorefname{section}%
3105 \def\subsectionautorefname{subsection}%
3106 \def\subsubsectionautorefname{subsubsection}%
3107 \def\paragraphautorefname{paragraph}%
3108 \def\subparagraphautorefname{subparagraph}%
3109 \def\FancyVerbLineautorefname{line}%
3110 \def\theoremautorefname{Theorem}%
3111 \def\pageautorefname{page}%
3112 }
3113 \def\HyLang@french{%
3114 \def\equationautorefname{'Equation}%
3115 \def\footnoteautorefname{note}%
3116 \def\itemautorefname{item}%
3117 \def\figureautorefname{Figure}%
3118 \def\tableautorefname{Tableau}%
3119 \def\partautorefname{Partie}%
3120 \def\appendixautorefname{Appendice}%
3121 \def\chapterautorefname{chapitre}%
3122 \def\sectionautorefname{section}%
3123 \def\subsectionautorefname{sous-section}%
3124 \def\subsubsectionautorefname{sous-sous-section}%
3125 \def\paragraphautorefname{paragraphe}%
3126 \def\subparagraphautorefname{sous-paragraphe}%
3127 \def\FancyVerbLineautorefname{ligne}%
3128 \def\theoremautorefname{Th\'eor\'eme}%
3129 \def\pageautorefname{page}%
3130 }
3131 \def\HyLang@german{%
3132 \def\equationautorefname{Gleichung}%
3133 \def\footnoteautorefname{Fu\ss note}%
3134 \def\itemautorefname{Punkt}%
3135 \def\figureautorefname{Abbildung}%
3136 \def\tableautorefname{Tabelle}%
3137 \def\partautorefname{Teil}%
3138 \def\appendixautorefname{Anhang}%
3139 \def\chapterautorefname{Kapitel}%
3140 \def\sectionautorefname{Abschnitt}%
3141 \def\subsectionautorefname{Unterabschnitt}%
3142 \def\subsubsectionautorefname{Unterunterabschnitt}%

```

```

3143 \def\paragraphautorefname{Absatz}%
3144 \def\subparagraphautorefname{Unterabsatz}%
3145 \def\FancyVerbLineautorefname{Zeile}%
3146 \def\theoremautorefname{Theorem}%
3147 \def\pageautorefname{Seite}%
3148 }
3149 \def\HyLang@italian{%
3150 \def\equationautorefname{Equazione}%
3151 \def\footnoteautorefname{nota}%
3152 \def\itemautorefname{punto}%
3153 \def\figureautorefname{Figura}%
3154 \def\tableautorefname{Tabella}%
3155 \def\partautorefname{Parte}%
3156 \def\appendixautorefname{Appendice}%
3157 \def\chapterautorefname{Capitolo}%
3158 \def\sectionautorefname{sezione}%
3159 \def\subsectionautorefname{sottosezione}%
3160 \def\subsubsectionautorefname{sottosottosezione}%
3161 \def\paragraphautorefname{paragrafo}%
3162 \def\subparagraphautorefname{sottoparagrafo}%
3163 \def\FancyVerbLineautorefname{linea}%
3164 \def\theoremautorefname{Teorema}%
3165 \def\pageautorefname{Pag.\@}%
3166 }
3167 \def\HyLang@magyar{%
3168 \def\equationautorefname{Egyenlet}%
3169 \def\footnoteautorefname{[\'abjegyzet}%
3170 \def\itemautorefname{Elem}%
3171 \def\figureautorefname{\'Abra}%
3172 \def\tableautorefname{T\'abl\'azat}%
3173 \def\partautorefname{R\'esz}%
3174 \def\appendixautorefname{F\'uggel\'ek}%
3175 \def\chapterautorefname{fejezet}%
3176 \def\sectionautorefname{szakasz}%
3177 \def\subsectionautorefname{alszakasz}%
3178 \def\subsubsectionautorefname{alalszakasz}%
3179 \def\paragraphautorefname{bekezd\'es}%
3180 \def\subparagraphautorefname{albekezd\'es}%
3181 \def\FancyVerbLineautorefname{sor}%
3182 \def\theoremautorefname{T\'etel}%
3183 \def\pageautorefname{oldal}%
3184 }
3185 \def\HyLang@portuges{%
3186 \def\equationautorefname{Equa\c c\~ao}%
3187 \def\footnoteautorefname{Nota de rodap\'e}%
3188 \def\itemautorefname{Item}%
3189 \def\figureautorefname{Figura}%
3190 \def\tableautorefname{Tabela}%
3191 \def\partautorefname{Parte}%
3192 \def\appendixautorefname{Ap\^endice}%
3193 \def\chapterautorefname{Cap\'itulo}%
3194 \def\sectionautorefname{Se\c c\~ao}%
3195 \def\subsectionautorefname{Subse\c c\~ao}%
3196 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3197 \def\paragraphautorefname{par\'agrafo}%
3198 \def\subparagraphautorefname{subpar\'agrafo}%
3199 \def\FancyVerbLineautorefname{linha}%

```



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.

```
3224 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrI.}%
3225 % \def\appendixautorefname{%
3226 % \cyr\cyrp\cyrr\cyri\cyrI\cyro\cyrzh\cyre\cyrn\cyri\cyre
3227 % }%
```

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.

```
3228 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3229 \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.

```
3230 \def\paragraphautorefname{\cyr\cyrp.}%
3231 \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.

```
3232 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3233 % \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.

```
3234 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3235 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3236 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3237 % \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 ...

```
3238 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3239 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3240 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3241 \def\pageautorefname{\cyr\cyrs.}%
3242 }
```

```
3243 \def\HyLang@spanish{%
3244 \def\equationautorefname{Ecuaci'on}%
3245 \def\footnoteautorefname{Nota a pie de p'agina}%
3246 \def\itemautorefname{Elemento}%
3247 \def\figureautorefname{Figura}%
3248 \def\tableautorefname{Tabla}%
3249 \def\partautorefname{Parte}%
```

```

3250 \def\appendixautorefname{Ap\'endice}%
3251 \def\chapterautorefname{Cap\'itulo}%
3252 \def\sectionautorefname{Secci\'on}%
3253 \def\subsectionautorefname{Subsecci\'on}%
3254 \def\subsubsectionautorefname{Subsubsecci\'on}%
3255 \def\paragraphautorefname{P\'arrafo}%
3256 \def\subparagraphautorefname{Subp\'arrafo}%
3257 \def\FancyVerbLineautorefname{L\'inea}%
3258 \def\theoremautorefname{Teorema}%
3259 \def\pageautorefname{P\'agina}%
3260 }
3261 \def\HyLang@vietnamese{%
3262 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr\'inh}%
3263 \def\footnoteautorefname{Ch\'u th\'ich}%
3264 \def\itemautorefname{m\du{c}%
3265 \def\figureautorefname{H\'inh}%
3266 \def\tableautorefname{B\h{a}ng}%
3267 \def\partautorefname{Ph\'acircumflex{}n}%
3268 \def\appendixautorefname{Ph\du{l}\du{c}%
3269 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
3270 \def\sectionautorefname{m\du{c}%
3271 \def\subsectionautorefname{m\du{c}%
3272 \def\subsubsectionautorefname{m\du{c}%
3273 \def\paragraphautorefname{\dj{}o\da{n}%
3274 \def\subparagraphautorefname{\dj{}o\da{n}%
3275 \def\FancyVerbLineautorefname{d\'ong}%
3276 \def\theoremautorefname{DJ{}\di{nh l\'y}%
3277 \def\pageautorefname{Trang}%
3278 }

```

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

```

3279 \def\HyLang@addto#1#2{%
3280 #2%
3281 \@temptokena{#2}%
3282 \ifx#1\relax
3283 \let#1\@empty
3284 \fi
3285 \ifx#1\@undefined
3286 \edef#1{\the\@temptokena}%
3287 \else
3288 \toks@\expandafter{#1}%
3289 \edef#1{\the\toks@\the\@temptokena}%
3290 \fi
3291 \@temptokena{}\toks@\@temptokena
3292 }
3293 \def\HyLang@DeclareLang#1#2#3{%
3294 \@ifpackagewith{babel}{#1}{%
3295 \expandafter\HyLang@addto
3296 \csname extras#1\expandafter\endcsname
3297 \csname HyLang@#2\endcsname
3298 \begingroup
3299 \edef\x{\endgroup
3300 #3%
3301 }%
3302 \x
3303 \@namedef{HyLang@#1@done}{}%

```

```

3304 }{}%
3305 \begingroup
3306 \edef\x##1##2{%
3307   \noexpand\ifx##2\relax
3308     \errmessage{No definitions for language #2' found!}%
3309   \noexpand\fi
3310 \endgroup
3311 \noexpand\define@key{Hyp}{#1}[]{}%
3312 \noexpand\@ifundefined{HyLang@#1@done}{}%
3313 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3314 #3%
3315 \noexpand\@namedef{HyLang@#1@done}{}%
3316 }{}%
3317 }%
3318 }%
3319 \expandafter\x\csname extras#1\expandafter\endcsname
3320 \csname HyLang@#2\endcsname
3321 }
3322 \HyLang@DeclareLang{english}{english}{}
3323 \HyLang@DeclareLang{UKenglish}{english}{}
3324 \HyLang@DeclareLang{british}{english}{}
3325 \HyLang@DeclareLang{USenglish}{english}{}
3326 \HyLang@DeclareLang{american}{english}{}
3327 \HyLang@DeclareLang{german}{german}{}
3328 \HyLang@DeclareLang{austrian}{german}{}
3329 \HyLang@DeclareLang{ngerman}{german}{}
3330 \HyLang@DeclareLang{naustrian}{german}{}
3331 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3332 \HyLang@DeclareLang{brazil}{portuges}{}
3333 \HyLang@DeclareLang{brazilian}{portuges}{}
3334 \HyLang@DeclareLang{portuguese}{portuges}{}
3335 \HyLang@DeclareLang{spanish}{spanish}{}
3336 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3337 \HyLang@DeclareLang{french}{french}{}
3338 \HyLang@DeclareLang{frenchb}{french}{}
3339 \HyLang@DeclareLang{francais}{french}{}
3340 \HyLang@DeclareLang{acadian}{french}{}
3341 \HyLang@DeclareLang{canadien}{french}{}
3342 \HyLang@DeclareLang{italian}{italian}{}
3343 \HyLang@DeclareLang{magyar}{magyar}{}
3344 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3345 \DeclareVoidOption{vietnamese}{%
3346   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3347   \Hy@AtEndOfPackage{%
3348     \@ifundefined{T@PU}{}{}%
3349     \input{puvnenc.def}%
3350   }%
3351 }%
3352 }
3353 \DeclareVoidOption{vietnam}{%
3354   \HyLang@addto\extravietnam\HyLang@vietnamese
3355   \Hy@AtEndOfPackage{%
3356     \@ifundefined{T@PU}{}{}%
3357     \input{puvnenc.def}%
3358   }%
3359 }%

```

```
3360 }
```

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

```
3361 \DeclareVoidOption{arabic}{}%
3362 \Hy@AtEndOfPackage{%
3363   \ifundefined{T@PU}{}%
3364     \input{puarenc.def}%
3365   }%
3366 }%
3367 }
```

## 13 Options to change appearance of links

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

```
3368 \define@key{Hyp}{colorlinks}[true]{%
3369   \Hy@boolkey{colorlinks}{#1}%
3370 }
3371 \DeclareVoidOption{hidelinks}{%
3372   \Hy@colorlinksfalse
3373   \Hy@ocgcolorlinksfalse
3374   \Hy@frenchlinksfalse
3375   \def\Hy@colorlink##1{\begingroup}%
3376   \def\Hy@endcolorlink{\endgroup}%
3377   \def\@pdfborder{0 0 0}%
3378   \let\@pdfborderstyle\ltx@empty
3379 }
3380 \define@key{Hyp}{ocgcolorlinks}[true]{%
3381   \Hy@boolkey{ocgcolorlinks}{#1}%
3382 }
3383 \Hy@AtBeginDocument{%
3384   \begingroup
3385   \ifundefined{OBJ@OCG@view}{%
3386     \ifHy@ocgcolorlinks
3387       \Hy@Warning{%
3388         Driver does not support ‘ocgcolorlinks’,\MessageBreak
3389         using ‘colorlinks’ instead%
3390       }%
3391     \fi
3392   }{}%
3393   \endgroup
3394 }
3395 \define@key{Hyp}{frenchlinks}[true]{%
3396   \Hy@boolkey{frenchlinks}{#1}%
3397 }
```

## 14 Bookmarking

```
3398 \begingroup\expandafter\expandafter\expandafter\endgroup
3399 \expandafter\ifx\csname chapter\endcsname\relax
3400   \def\toclevel@part{0}%
3401 \else
3402   \def\toclevel@part{-1}%
3403 \fi
3404 \def\toclevel@chapter{0}
3405 \def\toclevel@section{1}
```

```

3406 \def\toclevel@subsection{2}
3407 \def\toclevel@subsubsection{3}
3408 \def\toclevel@paragraph{4}
3409 \def\toclevel@subparagraph{5}
3410 \def\toclevel@figure{0}
3411 \def\toclevel@table{0}
3412 \ifpackageloaded{listings}{%
3413   \providecommand*\theHlstlisting{\thelstlisting}%
3414   \providecommand*\toclevel@lstlisting{0}%
3415 }{}
3416 \ifpackageloaded{listing}{%
3417   \providecommand*\theHlisting{\thelisting}%
3418   \providecommand*\toclevel@listing{0}%
3419 }{}

3420 \define@key{Hyp}{bookmarks}[true]{%
3421   \Hy@boolkey{bookmarks}{#1}%
3422 }

3423 \define@key{Hyp}{bookmarksopen}[true]{%
3424   \Hy@boolkey{bookmarksopen}{#1}%
3425 }

```

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.

```

3426 \let\Hy@bookmarksdepth\c@tocdepth
3427 \define@key{Hyp}{bookmarksdepth}[]{}%
3428 \begingroup
3429   \edef\x{#1}%
3430   \ifx\x\empty
3431     \global\let\Hy@bookmarksdepth\c@tocdepth
3432   \else
3433     \ifundefined{toclevel@\x}{%
3434       \@onelevel@sanitize\x
3435       \edef\y{\expandafter\@car\x\@nil}%
3436       \ifcase 0\expandafter\ifx\y-1\fi
3437         \expandafter\ifnum\expandafter\y>47 %
3438         \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
3439       \Hy@Warning{Unknown document division name (\x)}%
3440     \else
3441       \setbox\z@=\hbox{%
3442         \count@=\x
3443         \xdef\Hy@bookmarksdepth{\the\count@}%
3444       }%
3445     \fi
3446   }{}%
3447   \setbox\z@=\hbox{%
3448     \count@=\csname toclevel@\x\endcsname
3449     \xdef\Hy@bookmarksdepth{\the\count@}%
3450   }%

```

```

3451 }%
3452 \fi
3453 \endgroup
3454 }

```

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

```

3455 \define@key{Hyp}{bookmarksopenlevel}{%
3456 \def\@bookmarksopenlevel{#1}%
3457 }
3458 \def\@bookmarksopenlevel{\maxdimen}
3459 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3460 \define@key{Hyp}{bookmarkstype}{%
3461 \def\Hy@bookmarkstype{#1}%
3462 }
3463 \def\Hy@bookmarkstype{toc}

```

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

```

3464 \define@key{Hyp}{bookmarksnumbered}[true]{%
3465 \Hy@boolkey{bookmarksnumbered}{#1}%
3466 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3467 \define@key{Hyp}{CJKbookmarks}[true]{%
3468 \Hy@boolkey{CJKbookmarks}{#1}%
3469 }

3470 \def\Hy@temp#1{%
3471 \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3472 }
3473 \def\Hy@@temp#1#2#3{%
3474 \define@key{Hyp}{#2color}{%
3475 \HyColor@HyperrefColor{##1}#1%
3476 }%
3477 \def#1{#3}%
3478 }
3479 \Hy@temp{link}{red}
3480 \Hy@temp{anchor}{black}
3481 \Hy@temp{cite}{green}
3482 \Hy@temp{file}{cyan}
3483 \Hy@temp{url}{magenta}
3484 \Hy@temp{menu}{red}
3485 \Hy@temp{run}{\@filecolor}
3486 \define@key{Hyp}{pagecolor}{%
3487 \Hy@WarningPageColor
3488 }
3489 \def\Hy@WarningPageColor{%
3490 \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
3491 \global\let\Hy@WarningPageColor\relax
3492 }
3493 \define@key{Hyp}{allcolors}{%
3494 \HyColor@HyperrefColor{#1}\@linkcolor
3495 \HyColor@HyperrefColor{#1}\@anchorcolor
3496 \HyColor@HyperrefColor{#1}\@citecolor
3497 \HyColor@HyperrefColor{#1}\@filecolor
3498 \HyColor@HyperrefColor{#1}\@urlcolor
3499 \HyColor@HyperrefColor{#1}\@menucolor
3500 \HyColor@HyperrefColor{#1}\@runcolor
3501 }

```

```

3502 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3503 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3504 \let\@baseurl\@empty
3505 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3506 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3507 \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.

```

3508 \let\@pdfpagetransition\relax
3509 \define@key{Hyp}{pdfpagetransition}{%
3510   \def\@pdfpagetransition{#1}%
3511 }

```

`\@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.

```

3512 \let\@pdfpageduration\relax
3513 \define@key{Hyp}{pdfpageduration}{%
3514   \def\@pdfpageduration{#1}%
3515   \Hy@Match\@pdfpageduration{%
3516     ^([|0-9]+\.\?[0-9]*|0-9)*\.[0-9]+)$%
3517   }{ }{%
3518     \Hy@Warning{%
3519       Invalid value '\@pdfpageduration'\MessageBreak
3520       of option 'pdfpageduration'\MessageBreak
3521       is replaced by an empty value%
3522     }%
3523     \let\@pdfpageduration\ltx@empty
3524   }%
3525 }

```

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.

```

3526 \newif\ifHy@useHidKey
3527 \Hy@useHidKeyfalse
3528 \define@key{Hyp}{pdfpagehidden}[true]{%
3529   \Hy@boolkey{pdfpagehidden}{#1}%
3530   \ifHy@pdfpagehidden
3531     \global\Hy@useHidKeytrue
3532   \fi
3533 }

```

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).

```

3534 \def\Hy@ColorList{cite,file,link,menu,run,url}

```

```

3535 \@for\Hy@temp:=\Hy@ColorList\do{%
3536   \edef\Hy@temp{%
3537     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3538       \noexpand\HyColor@HyperrefBorderColor
3539         {##1}%
3540       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3541         {hyperref}%
3542       {\Hy@temp bordercolor}%
3543     }%
3544   }%
3545   \Hy@temp
3546 }
3547 \define@key{Hyp}{pagebordercolor}{%
3548   \Hy@WarningPageBorderColor
3549 }
3550 \def\Hy@WarningPageBorderColor{%
3551   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3552   \global\let\Hy@WarningPageBorderColor\relax
3553 }
3554 \define@key{Hyp}{allbordercolors}{%
3555   \def\Hy@temp##1##2{%
3556     \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3557   }%
3558   \Hy@temp\@citebordercolor{cite}%
3559   \Hy@temp\@filebordercolor{file}%
3560   \Hy@temp\@linkbordercolor{link}%
3561   \Hy@temp\@menubordercolor{menu}%
3562   \Hy@temp\@runbordercolor{run}%
3563   \Hy@temp\@urlbordercolor{url}%
3564 }
3565 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3566 \Hy@DefNameKey{pdfhighlight}{%
3567   \do{/I}{Invert}%
3568   \do{/N}{None}%
3569   \do{/O}{Outline}%
3570   \do{/P}{Push}%
3571 }
3572 \define@key{Hyp}{pdfborder}{%
3573   \let\Hy@temp\@pdfborder
3574   \def\@pdfborder{#1}%
3575   \Hy@Match\@pdfborder{%
3576     ^\HyPat@NonNegativeReal/ %
3577     \HyPat@NonNegativeReal/ %
3578     \HyPat@NonNegativeReal/%
3579     ( ?[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*])?%%
3580   }{}{%
3581     \Hy@Warning{%
3582       Invalid value '\@pdfborder'\MessageBreak
3583       for option 'pdfborder'\MessageBreak
3584       Option setting is ignored%
3585     }%
3586     \let\@pdfborder\Hy@temp
3587   }%
3588 }
3589 \define@key{Hyp}{pdfborderstyle}{%
3590   \let\Hy@temp\@pdfborderstyle
3591   \def\@pdfborderstyle{#1}%

```

```

3592 \Hy@Match\@pdfborderstyle{%
3593   ^%
3594   ( */Type */Border%
3595   | */W +\HyPat@NonNegativeReal/%
3596   | */S */[SDBIU]%
3597   | */D *[\ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?]%
3598   )* *$%
3599 }{}{%
3600   \Hy@Warning{%
3601     Invalid value '\@pdfborderstyle'\MessageBreak
3602     for option 'pdfborderstyle'\MessageBreak
3603     Option setting is ignored%
3604   }%
3605   \let\@pdfborderstyle\Hy@temp
3606 }%
3607 }
3608 \def\Hy@setpdfborder{%
3609   \ifx\@pdfborder\@empty
3610   \else
3611     /Border[\@pdfborder]%
3612   \fi
3613   \ifx\@pdfborderstyle\@empty
3614   \else
3615     /BS<<\@pdfborderstyle>>%
3616   \fi
3617 }
3618 \Hy@DefNameKey{pdfpagemode}{%
3619   \do{UseNone}{}%
3620   \do{UseOutlines}{}%
3621   \do{UseThumbs}{}%
3622   \do{FullScreen}{}%
3623   \do{UseOC}{PDF 1.5}%
3624   \do{UseAttachments}{PDF 1.6}%
3625 }
3626 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3627   \do{UseNone}{}%
3628   \do{UseOutlines}{}%
3629   \do{UseThumbs}{}%
3630   \do{FullScreen}{}%
3631   \do{UseOC}{PDF 1.5}%
3632   \do{UseAttachments}{PDF 1.6}%
3633 }
3634 \Hy@DefNameKey{pdfdirection}{%
3635   \do{L2R}{Left to right}%
3636   \do{R2L}{Right to left}%
3637 }
3638 \Hy@DefNameKey{pdfviewarea}{%
3639   \do{MediaBox}{}%
3640   \do{CropBox}{}%
3641   \do{BleedBox}{}%
3642   \do{TrimBox}{}%
3643   \do{ArtBox}{}%
3644 }
3645 \Hy@DefNameKey{pdfviewclip}{%
3646   \do{MediaBox}{}%
3647   \do{CropBox}{}%
3648   \do{BleedBox}{}%

```

```

3649 \do{TrimBox}{}%
3650 \do{ArtBox}{}%
3651 }
3652 \Hy@DefNameKey{pdfprintarea}{%
3653 \do{MediaBox}{}%
3654 \do{CropBox}{}%
3655 \do{BleedBox}{}%
3656 \do{TrimBox}{}%
3657 \do{ArtBox}{}%
3658 }
3659 \Hy@DefNameKey{pdfprintclip}{%
3660 \do{MediaBox}{}%
3661 \do{CropBox}{}%
3662 \do{BleedBox}{}%
3663 \do{TrimBox}{}%
3664 \do{ArtBox}{}%
3665 }
3666 \Hy@DefNameKey{pdfprintscaling}{%
3667 \do{AppDefault}{}%
3668 \do{None}{}%
3669 }
3670 \Hy@DefNameKey{pdfduplex}{%
3671 \do{Simplex}{}%
3672 \do{DuplexFlipShortEdge}{}%
3673 \do{DuplexFlipLongEdge}{}%
3674 }
3675 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3676 \do{true}{}%
3677 \do{false}{}%
3678 }
3679 \define@key{Hyp}{pdfprintpagerange}{%
3680 \def\@pdfprintpagerange{#1}%
3681 }
3682 \Hy@DefNameKey{pdfnumcopies}{%
3683 \do{2}{two copies}%
3684 \do{3}{three copies}%
3685 \do{4}{four copies}%
3686 \do{5}{five copies}%
3687 }
3688 \define@key{Hyp}{pdfusetitle}[true]{%
3689 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3690 }
3691 \def\HyXeTeX@CheckUnicode{%
3692 \ifxetex
3693 \ifHy@unicode
3694 \else
3695 \Hy@WarningNoLine{%
3696 XeTeX driver only supports unicode.\MessageBreak
3697 Enabling option 'unicode'%
3698 }%
3699 \kvsetkeys{Hyp}{unicode}%
3700 \fi
3701 \else
3702 \let\HyXeTeX@CheckUnicode\relax
3703 \fi
3704 }
3705 \def\HyPsd@PrerenderUnicode#1{%

```

```

3706 \begingroup
3707 \expandafter\ifx\cscname PrerenderUnicode\endcsname\relax
3708 \else
3709 \sbox0{%
3710 \let\GenericInfo\@gobbletwo
3711 \let\GenericWarning\@gobbletwo
3712 \let\GenericError\@gobblefour
3713 \PrerenderUnicode{#1}%
3714 }%
3715 \fi
3716 \endgroup
3717 }
3718 \define@key{Hyp}{pdftitle}{%
3719 \HyXeTeX@CheckUnicode
3720 \HyPsd@XeTeXBigCharstrue
3721 \HyPsd@PrerenderUnicode{#1}%
3722 \pdfstringdef\@pdftitle{#1}%
3723 }
3724 \define@key{Hyp}{pdfauthor}{%
3725 \HyXeTeX@CheckUnicode
3726 \HyPsd@XeTeXBigCharstrue
3727 \HyPsd@PrerenderUnicode{#1}%
3728 \pdfstringdef\@pdfauthor{#1}%
3729 }
3730 \define@key{Hyp}{pdfproducer}{%
3731 \HyXeTeX@CheckUnicode
3732 \HyPsd@XeTeXBigCharstrue
3733 \HyPsd@PrerenderUnicode{#1}%
3734 \pdfstringdef\@pdfproducer{#1}%
3735 }
3736 \define@key{Hyp}{pdfcreator}{%
3737 \HyXeTeX@CheckUnicode
3738 \HyPsd@XeTeXBigCharstrue
3739 \HyPsd@PrerenderUnicode{#1}%
3740 \pdfstringdef\@pdfcreator{#1}%
3741 }
3742 \define@key{Hyp}{pdfcreationdate}{%
3743 \begingroup
3744 \Hy@unicodedefalse
3745 \pdfstringdef\@pdfcreationdate{#1}%
3746 \endgroup
3747 }
3748 \define@key{Hyp}{pdfmoddate}{%
3749 \begingroup
3750 \Hy@unicodedefalse
3751 \pdfstringdef\@pdfmoddate{#1}%
3752 \endgroup
3753 }
3754 \define@key{Hyp}{pdfsubject}{%
3755 \HyXeTeX@CheckUnicode
3756 \HyPsd@XeTeXBigCharstrue
3757 \HyPsd@PrerenderUnicode{#1}%
3758 \pdfstringdef\@pdfsubject{#1}%
3759 }
3760 \define@key{Hyp}{pdfkeywords}{%
3761 \HyXeTeX@CheckUnicode
3762 \HyPsd@XeTeXBigCharstrue

```

```

3763 \HyPsd@PrerenderUnicode{#1}%
3764 \pdfstringdef\@pdfkeywords{#1}%
3765 }
3766 \define@key{Hyp}{pdftrapped}{%
3767 \lowercase{\edef\Hy@temp{#1}}%
3768 \ifx\Hy@temp\HyInfo@trapped@true
3769 \def\@pdftrapped{True}%
3770 \else
3771 \ifx\Hy@temp\HyInfo@trapped@false
3772 \def\@pdftrapped{False}%
3773 \else
3774 \ifx\Hy@temp\HyInfo@trapped@unknown
3775 \def\@pdftrapped{Unknown}%
3776 \else
3777 \ifx\Hy@temp\@empty
3778 \else
3779 \Hy@Warning{%
3780 Unsupported value '#1'\MessageBreak
3781 for option 'pdftrapped'%
3782 }%
3783 \fi
3784 \def\@pdftrapped{}}%
3785 \fi
3786 \fi
3787 \fi
3788 }
3789 \def\HyInfo@trapped@true{true}
3790 \def\HyInfo@trapped@false{false}
3791 \def\HyInfo@trapped@unknown{unknown}
3792 \def\HyInfo@TrappedUnsupported{%
3793 \ifx\@pdftrapped\@empty
3794 \else
3795 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3796 \gdef\HyInfo@TrappedUnsupported{}}%
3797 \fi
3798 }
3799 \define@key{Hyp}{pdfinfo}{%
3800 \kvsetkeys{pdfinfo}{#1}%
3801 }
3802 \def\Hy@temp#1{%
3803 \lowercase{\Hy@temp@A{#1}}{#1}%
3804 }
3805 \def\Hy@temp@A#1#2{%
3806 \define@key{pdfinfo}{#2}{%
3807 \hypersetup{pdf#1={##1}}%
3808 }%
3809 }
3810 \Hy@temp{Title}
3811 \Hy@temp{Author}
3812 \Hy@temp{Keywords}
3813 \Hy@temp{Subject}
3814 \Hy@temp{Creator}
3815 \Hy@temp{Producer}
3816 \Hy@temp{CreationDate}
3817 \Hy@temp{ModDate}
3818 \Hy@temp{Trapped}
3819 \newif\ifHyInfo@AddonUnsupported

```

```

3820 \kv@set@family@handler{pdfinfo}{%
3821   \HyInfo@AddonHandler{#1}{#2}%
3822 }
3823 \let\HyInfo@do\relax
3824 \def\HyInfo@AddonHandler#1#2{%
3825   \ifx\kv@value\relax
3826     \Hy@Warning{%
3827       Option 'pdfinfo': ignoring key '\kv@key' without value%
3828     }%
3829   \else
3830     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3831     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3832     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3833       \ifHyInfo@AddonUnsupported
3834         \Hy@Warning{%
3835           This driver does not support additional\MessageBreak
3836           information entries, therefore\MessageBreak
3837           '\kv@key' is ignored%
3838         }%
3839       \else
3840         \define@key{pdfinfo}{\HyInfo@Key}{%
3841           \HyXeTeX@CheckUnicode
3842           \HyPsd@XeTeXBigCharstrue
3843           \HyPsd@PrerenderUnicode{##1}%
3844           \pdfstringdef\HyInfo@Value{##1}%
3845           \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3846             \HyInfo@Value
3847         }%
3848         \edef\HyInfo@AddonList{%
3849           \HyInfo@AddonList
3850           \HyInfo@do{\HyInfo@Key}%
3851         }%
3852         \kv@parse@normalized{%
3853           \HyInfo@Key={#2}%
3854         }{%
3855           \kv@processor@default{pdfinfo}%
3856         }%
3857       \fi
3858     \else
3859       \kv@parse@normalized{%
3860         \HyInfo@Key={#2}%
3861       }{%
3862         \kv@processor@default{pdfinfo}%
3863       }%
3864     \fi
3865   \fi
3866 }
3867 \def\HyInfo@GenerateAddons{%
3868   \ifHyInfo@AddonUnsupported
3869     \def\HyInfo@Addons{}%
3870   \else
3871     \begingroup
3872     \toks@{}%
3873     \def\HyInfo@do##1{%
3874       \EdefEscapeName\HyInfo@Key{##1}%
3875       \edef\x{%
3876         \toks@{

```

```

3877         \the\toks@
3878         /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3879     }%
3880 }%
3881 \x
3882 }%
3883 \HyInfo@AddonList
3884 \edef\x{\endgroup
3885     \def\noexpand\HyInfo@Addons{\the\toks@}%
3886 }%
3887 \x
3888 \fi
3889 }
3890 \def\HyInfo@AddonList{}

3891 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3892 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3893 \let\setpdfinkmargin\@gobble
3894 \def\calculate@pdfview#1 #2\{\%
3895     \def\@pdfview{#1}%
3896     \ifx\#2\%
3897         \def\@pdfviewparams{-32768}%
3898     \else
3899         \def\@pdfviewparams{#2}%
3900     \fi
3901 }

3902 \begingroup\expandafter\expandafter\expandafter\endgroup
3903 \expandafter\ifx\csname numexpr\endcsname\relax
3904     \def\Hy@number#1{%
3905         \expandafter\@firstofone\expandafter{\number#1}%
3906     }%
3907 \else
3908     \def\Hy@number#1{%
3909         \the\numexpr#1\relax
3910     }%
3911 \fi

3912 \define@key{Hyp}{pdfstartpage}{%
3913     \ifx\#1\%
3914         \def\@pdfstartpage{}%
3915     \else
3916         \def\@pdfstartpage{\Hy@number{#1}}%
3917     \fi
3918 }%

3919 \define@key{Hyp}{pdfstartview}{%
3920     \ifx\#1\%
3921         \def\@pdfstartview{}%
3922     \else
3923         \hypercalcbpdef\@pdfstartview{/#1}%
3924     \fi
3925 }

3926 \def\HyPat@NonNegativeReal/{%
3927     \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
3928 }

3929 \define@key{Hyp}{pdfremotestartview}{%
3930     \ifx\#1\%
3931         \def\@pdfremotestartview{/Fit}%
3932     \else
3933         \hypercalcbpdef\@pdfremotestartview{#1}%

```

```

3934 \edef\@pdfremotestartview{\@pdfremotestartview}%
3935 \Hy@Match\@pdfremotestartview{%
3936   ~(XYZ -?(null|\HyPat@NonNegativeReal/) %
3937     -?(null|\HyPat@NonNegativeReal/) %
3938     (null|\HyPat@NonNegativeReal/)|%
3939     Fit(|B|%
3940     (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
3941     R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
3942     \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
3943   )$%
3944 }~}%
3945 \Hy@Warning{%
3946   Invalid value '\@pdfremotestartview'\MessageBreak
3947   of 'pdfremotestartview'\MessageBreak
3948   is replaced by 'Fit'%
3949 }%
3950 \let\@pdfremotestartview\@empty
3951 }%
3952 \ifx\@pdfremotestartview\@empty
3953   \def\@pdfremotestartview{/Fit}%
3954 \else
3955   \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3956 \fi
3957 \fi
3958 }
3959 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3960 \define@key{Hyp}{pdftoolbar}[true]{%
3961   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3962 }
3963 \define@key{Hyp}{pdfmenubar}[true]{%
3964   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3965 }
3966 \define@key{Hyp}{pdfwindowui}[true]{%
3967   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3968 }
3969 \define@key{Hyp}{pdffitwindow}[true]{%
3970   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3971 }
3972 \define@key{Hyp}{pdfcenterwindow}[true]{%
3973   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3974 }
3975 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3976   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3977 }
3978 \define@key{Hyp}{pdfa}[true]{%
3979   \Hy@boolkey[pdfa]{#1}%
3980 }
3981 \define@key{Hyp}{pdfnewwindow}[true]{%
3982   \def\Hy@temp{#1}%
3983   \ifx\Hy@temp\@empty
3984     \Hy@newwindowsetfalse
3985   \else
3986     \Hy@newwindowsettrue
3987     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3988   \fi
3989 }
3990 \def\Hy@SetNewWindow{%

```

```

3991 \ifHy@newwindowset
3992 /NewWindow %
3993 \ifHy@newwindow true\else false\fi
3994 \fi
3995 }
3996 \Hy@DefNameKey{pdfpagelayout}{%
3997 \do{SinglePage}{}%
3998 \do{OneColumn}{}%
3999 \do{TwoColumnLeft}{}%
4000 \do{TwoColumnRight}{}%
4001 \do{TwoPageLeft}{PDF 1.5}%
4002 \do{TwoPageRight}{PDF 1.5}%
4003 }
4004 \define@key{Hyp}{pdflang}{%
4005 \def\@pdflang{#1}%
4006 }
4007 \define@key{Hyp}{pdfpagelabels}[true]{%
4008 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
4009 }
4010 \define@key{Hyp}{pdfescapeform}[true]{%
4011 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
4012 }

```

Default values:

```

4013 \def\@linkbordercolor{1 0 0}
4014 \def\@urlbordercolor{0 1 1}
4015 \def\@menubordercolor{1 0 0}
4016 \def\@filebordercolor{0 .5 .5}
4017 \def\@runbordercolor{0 .7 .7}
4018 \def\@citebordercolor{0 1 0}
4019 \def\@pdfhighlight{/I}
4020 \def\@pdftitle{}
4021 \def\@pdfauthor{}
4022 \let\@pdfproducer\relax
4023 \def\@pdfcreator{LaTeX with hyperref package}
4024 \def\@pdfcreationdate{}
4025 \def\@pdfmoddate{}
4026 \def\@pdfsubject{}
4027 \def\@pdfkeywords{}
4028 \def\@pdftrapped{}
4029 \def\@pdfpagescrop{}
4030 \def\@pdfstartview{/Fit}
4031 \def\@pdfremotestartview{/Fit}
4032 \def\@pdfstartpage{1}
4033 \def\@pdfprintpagerange{}
4034 \def\@pdflang{}
4035 \let\PDF@SetupDoc\@empty
4036 \let\PDF@FinishDoc\@empty
4037 \let\phantomsection\@empty
4038 \let\special@paper\@empty
4039 \def\HyperDestNameFilter#1{#1}
4040 \Hy@AtBeginDocument{%
4041 \begingroup
4042 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4043 \dimen@=\x\relax
4044 \ifdim\dimen@>\z@
4045 \else
4046 \dimen@=11in\relax

```

```

4047 \Hy@WarningNoLine{%
4048   Height of page (\expandafter\string\x) %
4049   is invalid (\the\x),\MessageBreak
4050   using 11in%
4051 }%
4052 \fi
4053 \dimen@=0.99626401\dimen@
4054 \xdef\Hy@pageheight{\strip@pt\dimen@}%
4055 \endgroup
4056 }
4057 \def\HyInd@EncapChar{\|}

```

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.

```

4058 \let\hyper@normalise\ExecuteOptions
4059 \let\ExecuteOptions\hypersetup
4060 \Hy@RestoreCatcodes
4061 \InputIfFileExists{hyperref.cfg}{-}{-}
4062 \Hy@SetCatcodes
4063 \let\ExecuteOptions\hyper@normalise
4064 \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.

```

4065 \SetupKeyvalOptions{family=Hyp}
4066 \DeclareLocalOptions{%
4067   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4068 }

```

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

```

4069 \@ifpackageloaded{tex4ht}{-%
4070   \@ifpackagewith{hyperref}{tex4ht}{-}{-}
4071   \PassOptionsToPackage{tex4ht}{hyperref}%
4072 }%
4073 }{}

4074 \let\ReadBookmarks\relax
4075 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

4076 \Hy@AtBeginDocument{%
4077   \ifHy@draft
4078     \let\hyper@@anchor\@gobble
4079     \gdef\hyper@link#1#2#3{#3}%
4080     \let\hyper@anchorstart\@gobble
4081     \let\hyper@anchorend\@empty
4082     \let\hyper@linkstart\@gobbletwo
4083     \let\hyper@linkend\@empty
4084     \def\hyper@linkurl#1#2{#1}%
4085     \def\hyper@linkfile#1#2#3{#1}%
4086     \def\hyper@link@{#1}#2#3{}%
4087     \def\Acrobatmenu#1#2{\leavevmode#2}%
4088     \let\PDF@SetupDoc\@empty
4089     \let\PDF@FinishDoc\@empty
4090     \let\@fifthoffive\@secondoftwo
4091     \let\@secondoffive\@secondoftwo
4092     \let\ReadBookmarks\relax
4093     \let\WriteBookmarks\relax

```

```

4094 \Hy@WarningNoLine{Draft mode on}%
4095 \fi
4096 \Hy@DisableOption{draft}%
4097 \Hy@DisableOption{nolinks}%
4098 \Hy@DisableOption{final}%
4099 }

```

## 15.1 PDF/A

```

4100 \Hy@DisableOption{pdfa}

4101 \ifHy@pdfa
4102 \kvsetkeys{Hyp}{pdfversion=1.4}%
4103 \def\Hy@Acrobatmenu#1#2{%
4104   \leavevmode
4105   \begingroup
4106     \edef\x{#1}%
4107     \@onelevel@sanitize\x
4108     \ifx\x\Hy@NextPage
4109       \let\y=Y%
4110     \else
4111       \ifx\x\Hy@PrevPage
4112         \let\y=Y%
4113       \else
4114         \ifx\x\Hy@FirstPage
4115           \let\y=Y%
4116         \else
4117           \ifx\x\Hy@LastPage
4118             \let\y=Y%
4119           \else
4120             \let\y=N%
4121           \fi
4122         \fi
4123       \fi
4124     \fi
4125   \expandafter\endgroup
4126   \ifx\y Y%
4127   \else
4128     \Hy@Error{%
4129       PDF/A: Named action ‘#1’ is not permitted%
4130     }\@ehc
4131     {#2}%
4132     \expandafter\@gobble
4133   \fi
4134 }%
4135 \def\Hy@temp#1{%
4136   \expandafter\def\csname Hy@#1\endcsname{#1}%
4137   \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4138 }%
4139 \Hy@temp{NextPage}%
4140 \Hy@temp{PrevPage}%
4141 \Hy@temp{FirstPage}%
4142 \Hy@temp{LastPage}%
4143 \else
4144 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4145 \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.

```
4146 \Hy@nextfalse
4147 \ltx@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
4148 \ltx@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
4149 \ltx@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
4150 \ifHy@next
4151   \let\texttilde\~%
4152 \fi

4153 \def\Hy@wrapper@babel#1#2{%
4154   \begingroup
4155     \Hy@safe@activetrue
4156     \set@display@protect
4157     \edef\x{#2}%
4158     \@onelevel@sanitize\x
4159     \toks@{#1}%
4160     \edef\x{\endgroup\the\toks@{\x}}%
4161     \x
4162 }
4163 \def\Hy@WrapperDef#1{%
4164   \begingroup
4165     \escapechar=\m@ne
4166     \xdef\Hy@gtemp{%
4167       \expandafter\noexpand\csname HyWrap@string#1\endcsname
4168     }%
4169   \endgroup
4170   \edef#1{%
4171     \noexpand\Hy@wrapper@babel
4172     \expandafter\noexpand\Hy@gtemp
4173   }%
4174   \expandafter\def\Hy@gtemp
4175 }

4176 \ifHy@figures
4177   \Hy@Info{Hyper figures ON}%
4178 \else
4179   \Hy@Info{Hyper figures OFF}%
4180 \fi
4181 \ifHy@nesting
4182   \Hy@Info{Link nesting ON}%
4183 \else
4184   \Hy@Info{Link nesting OFF}%
4185 \fi
4186 \ifHy@hyperindex
4187   \Hy@Info{Hyper index ON}%
4188 \else
4189   \Hy@Info{Hyper index OFF}%
4190 \fi
4191 \ifHy@plainpages
4192   \Hy@Info{Plain pages ON}%
4193 \else
4194   \Hy@Info{Plain pages OFF}%
4195 \fi
4196 \ifHy@backref
4197   \Hy@Info{Backreferencing ON}%
4198 \else
```

```

4199 \Hy@Info{Backreferencing OFF}%
4200 \fi
4201 \ifHy@typexml
4202 \Hy@AtEndOfPackage{%
4203   \RequirePackage{color}%
4204   \RequirePackage{nameref}%
4205 }%
4206 \fi
4207 \Hy@DisableOption{typexml}
4208 \ifHy@implicit
4209 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4210 \else
4211 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4212 \def\MaybeStopEarly{%
4213   \Hy@Message{Stopped early}%
4214   \Hy@AtBeginDocument{%
4215     \PDF@FinishDoc
4216     \gdef\PDF@FinishDoc{}%
4217   }%
4218   \endinput
4219 }%
4220 \Hy@AtBeginDocument{%
4221   \let\autoref\ref
4222   \let\autopageref\pageref
4223   \ifx\@pdfpagemode\@empty
4224     \gdef\@pdfpagemode{UseNone}%
4225   \fi
4226   \global\Hy@backreffalse
4227 }%
4228 \Hy@AtEndOfPackage{%
4229   \global\let\ReadBookmarks\relax
4230   \global\let\WriteBookmarks\relax
4231 }%
4232 \fi
4233 \Hy@DisableOption{implicit}

```

### 15.2.1 Driver loading

```

4234 \Hy@AtEndOfPackage{%
4235   \@ifpackageloaded{tex4ht}{%
4236     \def\Hy@driver{htex4ht}%
4237     \Hy@texhttrue
4238   }{}%

```

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.

```

4239 \ifx\Hy@driver\@empty
4240 \else
4241 \def\Hy@temp{hpdfTeX}%
4242 \ifpdf
4243 \ifx\Hy@driver\Hy@temp
4244 \else
4245 \Hy@WarningNoLine{%
4246   Wrong driver ‘\Hy@driver.def’;\MessageBreak
4247   pdfTeX is running in PDF mode.\MessageBreak
4248   Forcing driver ‘\Hy@temp.def’%
4249 }%
4250 \let\Hy@driver\Hy@temp

```

```

4251 \fi
4252 \else
4253 \ifx\Hy@driver\Hy@temp
4254 \Hy@WarningNoLine{%
4255   Wrong driver ‘\Hy@driver.def’;\MessageBreak
4256   pdfTeX is not running in PDF mode.\MessageBreak
4257   Using default driver%
4258 }%
4259 \let\Hy@driver\@empty
4260 \fi
4261 \fi
4262 \fi
4263 \ifHy@texht
4264 \else
4265 \ifx\Hy@driver\@empty
4266 \else
4267 \def\Hy@temp{hxtex}%
4268 \ifxetex
4269 \ifx\Hy@driver\Hy@temp
4270 \else
4271 \Hy@WarningNoLine{%
4272   Wrong driver ‘\Hy@driver.def’;\MessageBreak
4273   XeTeX is running.\MessageBreak
4274   Forcing driver ‘\Hy@temp.def’ for XeTeX%
4275 }%
4276 \let\Hy@driver\Hy@temp
4277 \fi
4278 \fi
4279 \fi
4280 \fi
4281 \ifx\Hy@driver\@empty
4282 \else
4283 \def\Hy@temp{hvtexhtm}%
4284 \ifvtexhtml
4285 \ifx\Hy@driver\Hy@temp
4286 \else
4287 \Hy@WarningNoLine{%
4288   Wrong driver ‘\Hy@driver.def’;\MessageBreak
4289   VTeX is running in HTML mode.\MessageBreak
4290   Forcing driver ‘\Hy@temp.def’%
4291 }%
4292 \let\Hy@driver\Hy@temp
4293 \fi
4294 \else
4295 \ifx\Hy@driver\Hy@temp
4296 \Hy@WarningNoLine{%
4297   Wrong driver ‘\Hy@driver.def’;\MessageBreak
4298   VTeX is not running in HTML mode.\MessageBreak
4299   Using default driver%
4300 }%
4301 \let\Hy@driver\@empty
4302 \fi
4303 \fi
4304 \fi

```

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

```

4305 \def\HyOpt@DriverType{%
4306 \ifx\Hy@driver\@empty

```

```

4307 \def\HyOpt@DriverType{ (autodetected)}%
4308 \providecommand*{\Hy@defaultdriver}{hypertex}%
4309 \ifpdf
4310 \def\Hy@driver{hpdfTeX}%
4311 \else
4312 \ifxetex
4313 \def\Hy@driver{hxetex}%
4314 \else
4315 \ifvtexhtml
4316 \def\Hy@driver{hvtexhtm}%
4317 \def\MaybeStopEarly{%
4318 \Hy@Message{Stopped early}%
4319 \Hy@AtBeginDocument{%
4320 \PDF@FinishDoc
4321 \gdef\PDF@FinishDoc{}}%
4322 }%
4323 \endinput
4324 }%
4325 \else
4326 \ifvtexpdf
4327 \def\Hy@driver{hvtex}%
4328 \else
4329 \ifvtexps
4330 \def\Hy@driver{hvtex}%
4331 \else
4332 \ifx\HyOpt@DriverFallback\ltx@empty
4333 \let\Hy@driver\Hy@defaultdriver
4334 \def\HyOpt@DriverType{ (default)}%
4335 \else
4336 \begingroup
4337 \toks@{\expandafter{\HyOpt@DriverFallback}}%
4338 \edef\x{\endgroup
4339 \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4340 }%
4341 \x
4342 \ifx\Hy@driver\ltx@empty
4343 \let\Hy@driver\Hy@defaultdriver
4344 \def\HyOpt@DriverType{ (default)}%
4345 \else
4346 \def\HyOpt@DriverType{ (fallback)}%
4347 \fi
4348 \fi
4349 \fi
4350 \fi
4351 \fi
4352 \fi
4353 \fi
4354 \ifx\Hy@driver\Hy@defaultdriver
4355 \def\Hy@temp{hdvwind}%
4356 \ifx\Hy@temp\Hy@driver
4357 \kvsetkeys{Hyp}{colorlinks}%
4358 \PassOptionsToPackage{dviwindo}{color}%
4359 \fi
4360 \fi
4361 \fi
4362 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4363 \chardef\Hy@VersionChecked=0 %

```

```

4364 \input{\Hy@driver.def}%
4365 \ifcase\Hy@VersionChecked
4366   \Hy@VersionCheck{\Hy@driver.def}%
4367 \fi
4368 \let\@unprocessedoptions\relax
4369 \Hy@RestoreCatcodes
4370 \Hy@DisableOption{tex4ht}%
4371 \Hy@DisableOption{pdftex}%
4372 \Hy@DisableOption{nativepdf}%
4373 \Hy@DisableOption{dvipdfm}%
4374 \Hy@DisableOption{dvipdfmx}%
4375 \Hy@DisableOption{dvipdfmx-outline-open}%
4376 \Hy@DisableOption{pdfmark}%
4377 \Hy@DisableOption{dvips}%
4378 \Hy@DisableOption{hypertex}%
4379 \Hy@DisableOption{vtex}%
4380 \Hy@DisableOption{vtexpdfmark}%
4381 \Hy@DisableOption{dviwindo}%
4382 \Hy@DisableOption{dvipsone}%
4383 \Hy@DisableOption{textures}%
4384 \Hy@DisableOption{latex2html}%
4385 \Hy@DisableOption{ps2pdf}%
4386 \Hy@DisableOption{xetex}%
4387 \Hy@DisableOption{pdfversion}%
4388 }

```

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.

```

4389 \newif\ifHy@DvipdfmxOutlineOpen
4390 \ifxetex
4391   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4392   \else
4393     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4394     \Hy@DvipdfmxOutlineOpentrue
4395   \fi
4396 \fi
4397 \begingroup\expandafter\expandafter\expandafter\endgroup
4398 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4399 \else
4400   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4401     \Hy@DvipdfmxOutlineOpentrue
4402   \fi
4403 \fi

```

### 15.2.2 Bookmarks

```

4404 \def\WriteBookmarks{0}
4405 \def\@bookmarkopenstatus#1{%
4406   \ifHy@bookmarksopen

```

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

```

4407   \ifnum#1<\expandafter\@firstofone\expandafter
4408     {\number\@bookmarksopenlevel} % explicit space
4409   \else
4410     -%
4411   \fi
4412 \else

```

```

4413 -%
4414 \fi
4415 }
4416 \ifHy@bookmarks
4417 \Hy@Info{Bookmarks ON}%
4418 \ifx\@pdfpagemode\@empty
4419 \def\@pdfpagemode{UseOutlines}%
4420 \fi
4421 \else
4422 \def\@bookmarkopenstatus#1{%
4423 \Hy@Info{Bookmarks OFF}%
4424 \Hy@AtEndOfPackage{%
4425 \global\let\ReadBookmarks\relax
4426 \global\let\WriteBookmarks\relax
4427 }%
4428 \ifx\@pdfpagemode\@empty
4429 \def\@pdfpagemode{UseNone}%
4430 \fi
4431 \fi
4432 \Hy@DisableOption{bookmarks}

Add wrapper for setting standard catcodes (babel's shorthands).
4433 \def\Hy@CatcodeWrapper#1{%
4434 \def\Hy@endWrap{%
4435 \def\TMP@EnsureCode##1##2{%
4436 \edef\Hy@endWrap{%
4437 \Hy@endWrap
4438 \catcode##1 \the\catcode##1\relax
4439 }%
4440 \catcode##1 ##2\relax
4441 }%
4442 \TMP@EnsureCode{10}{12}% ^^J
4443 \TMP@EnsureCode{33}{12}% !
4444 \TMP@EnsureCode{34}{12}% "
4445 \TMP@EnsureCode{36}{3}% $ (math)
4446 \TMP@EnsureCode{38}{4}% & (alignment)
4447 \TMP@EnsureCode{39}{12}% '
4448 \TMP@EnsureCode{40}{12}% (
4449 \TMP@EnsureCode{41}{12}% )
4450 \TMP@EnsureCode{42}{12}% *
4451 \TMP@EnsureCode{43}{12}% +
4452 \TMP@EnsureCode{44}{12}% ,
4453 \TMP@EnsureCode{45}{12}% -
4454 \TMP@EnsureCode{46}{12}% .
4455 \TMP@EnsureCode{47}{12}% /
4456 \TMP@EnsureCode{58}{12}% :
4457 \TMP@EnsureCode{59}{12}% ;
4458 \TMP@EnsureCode{60}{12}% <
4459 \TMP@EnsureCode{61}{12}% =
4460 \TMP@EnsureCode{62}{12}% >
4461 \TMP@EnsureCode{63}{12}% ?
4462 \TMP@EnsureCode{91}{12}% [
4463 \TMP@EnsureCode{93}{12}% ]
4464 \TMP@EnsureCode{94}{7}% ^ (superscript)
4465 \TMP@EnsureCode{95}{8}% _ (subscript)
4466 \TMP@EnsureCode{96}{12}% '
4467 \TMP@EnsureCode{124}{12}% |
4468 \TMP@EnsureCode{126}{13}% ~ (active)

```

```

4469 #1\relax
4470 \Hy@EndWrap
4471 }

```

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

```

4472 \Hy@AtBeginDocument{%
4473   \ifHy@ocgcolorlinks
4474     \kvsetkeys{Hyp}{colorlinks}%
4475     \ifHy@pdfa
4476       \Hy@Warning{%
4477         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4478         using 'colorlinks' instead of 'ocgcolorlinks'%
4479       }%
4480     \Hy@ocgcolorlinksfalse
4481   \fi
4482 \fi
4483 \ifHy@ocgcolorlinks
4484 \else
4485   \Hy@DisableOption{ocgcolorlinks}%
4486 \fi
4487 \ifHy@colorlinks
4488   \def\@pdfborder{0 0 0}%
4489   \let\@pdfborderstyle\@empty
4490   \ifHy@typexml
4491   \else
4492     \Hy@CatcodeWrapper{%
4493       \RequirePackage{color}%
4494     }%
4495   \fi
4496   \def\Hy@colorlink#1{%
4497     \begingroup
4498     \HyColor@UseColor#1%
4499   }%
4500   \def\Hy@endcolorlink{\endgroup}%
4501   \Hy@Info{Link coloring ON}%
4502 \else
4503   \ifHy@frenchlinks
4504     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4505     \def\Hy@endcolorlink{\endgroup}%
4506     \Hy@Info{French linking ON}%
4507   \else

```

for grouping consistency:

```

4508     \def\Hy@colorlink#1{\begingroup}%
4509     \def\Hy@endcolorlink{\endgroup}%
4510     \Hy@Info{Link coloring OFF}%
4511   \fi
4512 \fi
4513 \Hy@DisableOption{colorlinks}%
4514 \Hy@DisableOption{frenchlinks}%
4515 \ifHy@texht
4516   \long\def\@firstoffive#1#2#3#4#5{#1}%
4517   \long\def\@secondoffive#1#2#3#4#5{#2}%
4518   \long\def\@thirdoffive#1#2#3#4#5{#3}%
4519   \long\def\@fourthoffive#1#2#3#4#5{#4}%
4520   \long\def\@fifthoffive#1#2#3#4#5{#5}%
4521   \providecommand*\@safe@activestrue{}%
4522   \providecommand*\@safe@activesfalse{}%

```

```

4523 \def\T@ref#1{%
4524   \Hy@safe@activetrue
4525   \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4526   \Hy@safe@activesfalse
4527 }%
4528 \def\T@pageref#1{%
4529   \Hy@safe@activetrue
4530   \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4531   \Hy@safe@activesfalse
4532 }%
4533 \else
4534   \ifHy@typexml
4535   \else
4536     \Hy@CatcodeWrapper{%
4537       \RequirePackage{nameref}%
4538     }%
4539   \fi
4540 \fi
4541 \DeclareRobustCommand\ref{%
4542   \@ifstar\@refstar\T@ref
4543 }%
4544 \DeclareRobustCommand\pageref{%
4545   \@ifstar\@pagerefstar\T@pageref
4546 }%
4547 % \ifclassloaded{memoir}{%
4548 %   \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4549 %     \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4550 %   }%
4551 % } \ltx@secondoftwo
4552 % {%
4553 %   \DeclareRobustCommand*{\nameref}{%
4554 %     \@ifstar\@mem@titlerefno link\@mem@titleref
4555 %   }%
4556 % }{%
4557   \DeclareRobustCommand*{\nameref}{%
4558     \@ifstar\@namerefstar\T@nameref
4559   }%
4560 % }%
4561 }
4562 \Hy@AtBeginDocument{%
4563   \ifHy@texht
4564   \else
4565     \Hy@CatcodeWrapper\ReadBookmarks
4566   \fi
4567 }
4568 \ifHy@backref
4569   \RequirePackage{backref}%
4570 \else
4571   \let\Hy@backout\@gobble
4572 \fi
4573 \Hy@DisableOption{backref}
4574 \Hy@DisableOption{pagebackref}
4575 \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.

```

4576 \begingroup
4577   \endlinechar=-1 %
4578   \catcode'\^^A=14 %
4579   \catcode'\^^M\active
4580   \catcode'\%\active
4581   \catcode'\#\active
4582   \catcode'\_\active
4583   \catcode'\$\active
4584   \catcode'\&\active
4585   \gdef\hyper@normalise{^^A
4586     \begingroup
4587       \catcode'\^^M\active
4588       \def^^M{ }^^A
4589       \catcode'\%\active
4590       \let%\@percentchar
4591       \let%\@percentchar
4592       \catcode'\#\active
4593       \def#{\hyper@hash}^^A
4594       \def\#{\hyper@hash}^^A
4595       \@makeother\&^^A
4596       \edef&{\string&}^^A
4597       \edef\&{\string&}^^A
4598       \edef\textunderscore{\string_}^^A
4599       \let\_ \textunderscore
4600       \catcode'\_\active
4601       \let\_ \textunderscore
4602       \let~\hyper@tilde
4603       \let~\hyper@tilde
4604       \let\textasciitilde\hyper@tilde
4605       \let\\ \@backslashchar
4606       \edef$\{ \string$ }^^A
4607       \Hy@safe@activestrue
4608       \hyper@n@rmalise
4609     }^^A
4610     \catcode'\#=6 ^^A
4611     \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4612     \gdef\hyper@n@rmalise#1#2{^^A
4613       \def\Hy@tempa{#2}^^A
4614       \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4615         \Hy@ReturnAfterElseFi{^^A
4616           \hyper@@normalise{#1}^^A
4617         }^^A
4618       \else
4619         \Hy@ReturnAfterFi{^^A
4620           \hyper@@normalise{#1}{#2}^^A
4621         }^^A
4622       \fi
4623     }^^A
4624     \gdef\hyper@@normalise#1#2{^^A

```

```

4625 \edef\Hy@tempa{^^A
4626 \endgroup
4627 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4628 }^^A
4629 \Hy@tempa
4630 }^^A
4631 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4632 #1^^A
4633 \ifx\limits#2\limits
4634 \else
4635 \Hy@ReturnAfterFi{^^A
4636 \Hy@RemovePercentCr #2\@nil
4637 }^^A
4638 \fi
4639 }^^A
4640 \endgroup
4641 \providecommand*\hyper@chars{%
4642 \let\#\hyper@hash
4643 \let\%\@percentchar
4644 \Hy@safe@activetrue
4645 }

4646 \def\hyperlink#1#2{%
4647 \hyper@@link{#1}{#2}%
4648 }

4649 \def\Hy@VerboseLinkStart#1#2{%
4650 \ifHy@verbose
4651 \begingroup
4652 \Hy@safe@activetrue
4653 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4654 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4655 \xdef\Hy@VerboseGlobalTemp{%
4656 \Hy@VerboseGlobalTemp, %
4657 line \the\inputlineno
4658 }%
4659 \endgroup
4660 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4661 \@onelevel@sanitize\Hy@VerboseLinkInfo
4662 \fi
4663 }

4664 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4665 \def\Hy@VerboseLinkStop{%
4666 \ifHy@verbose
4667 \begingroup
4668 \edef\x{\endgroup
4669 \write\m@ne{%
4670 Package 'hyperref' Info: %
4671 End of reference \Hy@VerboseLinkInfo.%
4672 }%
4673 }%
4674 \x
4675 \fi
4676 }

4677 \def\Hy@VerboseAnchor#1{%
4678 \ifHy@verbose
4679 \begingroup
4680 \Hy@safe@activetrue

```

```

4681 \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4682 \endgroup
4683 \fi
4684 }

4685 \def\Hy@AllowHyphens{%
4686 \relax
4687 \ifhmode
4688 \penalty\@M
4689 \hskip\z@skip
4690 \fi
4691 }

4692 \DeclareRobustCommand*\href{[1][]{%
4693 \begingroup
4694 \setkeys{href}{#1}%
4695 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4696 }
4697 \def\Hy@href#{%
4698 \hyper@normalise\href@
4699 }
4700 \begingroup
4701 \catcode'\$=6 %
4702 \catcode'\#=12 %
4703 \gdef\href@\$1{\expandafter\href@split$1##\}%
4704 \gdef\href@split$1#\$2#\$3\\$4{%
4705 \hyper@@link{$1}{$2}{$3}{$4}%
4706 \endgroup
4707 }%
4708 \endgroup

```

Option ‘page’.

```

4709 \define@key{href}{page}{%
4710 \def\Hy@href@page{#1}%
4711 }
4712 \let\Hy@href@page\@empty
4713 \newcount\c@Hy@tempcnt
4714 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4715 \def\Hy@MakeRemoteAction{%
4716 \ifx\Hy@href@page\@empty
4717 \def\Hy@href@page{0}%
4718 \else
4719 \setcounter{Hy@tempcnt}{\Hy@href@page}%
4720 \ifnum\c@Hy@tempcnt<\@ne
4721 \Hy@Warning{%
4722 Invalid page number (\theHy@tempcnt)\MessageBreak
4723 for remote PDF file.\MessageBreak
4724 Using page 1%
4725 }%
4726 \def\Hy@href@page{0}%
4727 \else
4728 \global\advance\c@Hy@tempcnt\m@ne
4729 \edef\Hy@href@page{\theHy@tempcnt}%
4730 \fi
4731 \fi

```

If a next action is set, then also a new window should be opened. Otherwise AR reclaims that it closes the current file with discarding the next actions.

```

4732 \ifx\Hy@href@nextactionraw\@empty

```

```

4733 \else
4734 \Hy@newwindowsettrue
4735 \Hy@newwindowtrue
4736 \fi
4737 }

```

Option ‘pdfremotestartview’.

```

4738 \define@key{href}{pdfremotestartview}{%
4739 \setkeys{Hyp}{pdfremotestartview={#1}}%
4740 }

```

Option ‘pdfnewwindow’.

```

4741 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4742 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4743 \newif\ifHy@href@ismap
4744 \define@key{href}{ismap}[true]{%
4745 \ltx@ifundefined{Hy@href@ismap#1}{%
4746 \Hy@Error{%
4747 Invalid value (#1) for key ‘ismap’.\MessageBreak
4748 Permitted values are ‘true’ or ‘false’.\MessageBreak
4749 Ignoring ‘ismap’%
4750 }\@ehc
4751 }{%
4752 \csname Hy@href@ismap#1\endcsname
4753 }%
4754 }

```

Option ‘nextactionraw’.

```

4755 \let\Hy@href@nextactionraw\@empty
4756 \define@key{href}{nextactionraw}{%
4757 \edef\Hy@href@nextactionraw{#1}%
4758 \ifx\Hy@href@nextactionraw\@empty
4759 \else
4760 \Hy@Match\Hy@href@nextactionraw{%
4761 ^(\HyPat@ObjRef/|<<.*[/S[/].+>>|%
4762 \[( ?\HyPat@ObjRef/|<<.*[/S[/].+>>)+ ?)]$%
4763 }{ }{%
4764 \Hy@Warning{Invalid value for ‘nextactionraw’:\MessageBreak
4765 \Hy@href@nextactionraw\MessageBreak
4766 The action is discarded%
4767 }%
4768 }%
4769 \ifx\Hy@href@nextactionraw\@empty
4770 \else
4771 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4772 \fi
4773 \fi
4774 }
4775 \def\HyPat@ObjRef/{.+}

```

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

```

4776 \RequirePackage{url}
4777 \let\HyOrg@url\url
4778 \def\Hurl{\begingroup \Url}
4779 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4780 \def\nolinkurl@#1{\Hurl{#1}}
4781 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4782 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

```

```

4783 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4784 \providecommand\hyper@image[2]{#2}

4785 \def\hypertarget#1#2{%
4786   \ifHy@nesting
4787     \hyper@@anchor{#1}{#2}%
4788   \else
4789     \hyper@@anchor{#1}{\relax}#2%
4790   \fi
4791 }

```

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

```

4792 \DeclareRobustCommand*\hyperref{%
4793   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4794 }
4795 \def\Hy@babelnormalise#1[#2]{%
4796   \begingroup
4797     \Hy@safe@activetrue
4798     \edef\Hy@tempa{%
4799       \endgroup
4800       \noexpand#1[#2]}%
4801   }%
4802   \Hy@tempa
4803 }
4804 \def\@hyperref{\hyper@normalise\@hyperref}
4805 \def\@hyperref#1#2#3{%
4806   \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
4807   \expandafter\tryhyper@link\ref@one\{#1}%
4808 }
4809 \def\tryhyper@link#1\#2{%
4810   \hyper@@link{#2}{#1}%
4811 }

4812 \def\hyperdef{\@ifnextchar{\label@hyperdef}\@hyperdef}
4813 \def\@hyperdef#1#2#3{%, category, name, text
4814   \ifx\#1\%
4815     \def\Hy@AnchorName{#2}%
4816   \else
4817     \def\Hy@AnchorName{#1.#2}%
4818   \fi
4819   \ifHy@nesting
4820     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4821   \else
4822     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4823   \fi
4824 }

```

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

```

4825 \def\label@hyperref[#1]{%
4826   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4827 }%
4828 \def\label@@hyperref#1#2#3{%
4829   \ifx#1\relax

```

```

4830 \protect\G@refundefinedtrue
4831 \@latex@warning{%
4832   Hyper reference '#2' on page \thepage \space undefined%
4833 }%
4834 \hyper@@link@{??}{#3}%
4835 \else
4836 \hyper@@link@{\expandafter\@fifthoffive#1}%
4837 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4838 \fi
4839 }
4840 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4841                               % anchor text
4842 \@bsphack
4843 \ifx\#2\%
4844 \def\Hy@AnchorName{#3}%
4845 \else
4846 \def\Hy@AnchorName{#2.#3}%
4847 \fi
4848 \if@filesw
4849 \protected@write\@auxout@{ {%
4850 \string\newlabel{#1}{#2}{#3}{\Hy@AnchorName}}}%
4851 }%
4852 \fi
4853 \@esphack
4854 \ifHy@nesting
4855 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4856 \else
4857 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
4858 \fi
4859 }

```

## 17 Underlying basic hypertext macros

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

```

4860 \def\hyper@@link@{\let\Hy@reserved@a\relax
4861 \@ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
4862 }
4863 \def\hyper@link@[#1]#2#3#4{%
4864 \begingroup
4865 \protected@edef\Hy@tempa{#2}%
4866 \Hy@safe@activestrue
4867 \edef\x{#3}%
4868 \ifx\Hy@tempa\@empty
4869 \toks0{\hyper@link{#1}}%
4870 \else
4871 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
4872 \fi
4873 \toks2{%
4874 \Hy@safe@activesfalse
4875 #4%
4876 }%
4877 \edef\Hy@tempa{\the\toks2}%
4878 \edef\x{\endgroup

```

```

4879 \ifx\Hy@tempa\@empty
4880 \noexpand\Hy@Warning{Suppressing empty link}%
4881 \else
4882 \the\toks0 {\x}{\the\toks2}%
4883 \fi
4884 }%
4885 \x
4886 }

```

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.

```

4887 \def\hyper@readexternallink#1\|#2#3#4{%
4888 \begingroup
4889 \let\relax
4890 \expandafter\endgroup
4891 \expandafter\@hyper@\@readexternallink#1\|#2#3#4{%
4892 }
4893 \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.

```

4894 \@hyper@readexternallink{#2}{#3}{#4}#1::\#{#1}%
4895 }

```

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

```

4896 \def\@pdftempwordfile{file}%
4897 \def\@pdftempwordrun{run}%
4898 \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:

```

4899 \ifx\#6\%
4900 \@hyper@linkfile file:#7\|#3#2#7}%
4901 \else
4902 \ifx\#4\%
4903 \@hyper@linkfile file:#7\|#3#2#7}%
4904 \else

```

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

```

4905 \def\@pdftempa{#4}%
4906 \ifx\@pdftempa\@pdftempwordfile
4907 \@hyper@linkfile#7\|#3#2#7}%
4908 \else

```

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

```
4909 \ifx\@pdftempa\@pdftempwordrun
4910 \ifHy@pdfa
4911 \Hy@Error{%
4912 PDF/A: Launch action is prohibited%
4913 }\@ehc
4914 \begingroup
4915 \leavevmode
4916 #2%
4917 \endgroup
4918 \else
4919 \@hyper@launch#7\{\#3\}{\#2}%
4920 \fi
4921 \else
```

otherwise its a URL

```
4922 \hyper@linkurl{\#3\}{\#7\ifx\#2\\\else\hyper@hash#2\fi}%
4923 \fi
4924 \fi
4925 \fi
4926 \fi
4927 }
```

By default, turn run: into file:

```
4928 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
4929 \hyper@linkurl{\#2\}{%
4930 \Hy@linkfileprefix
4931 #1%
4932 \ifx\#3\\\%
4933 \else
4934 \hyper@hash
4935 #3%
4936 \fi
4937 }%
4938 }
```

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

```
4939 \def\@hyper@linkfile file:#1\#2#3#4{%
4940 %file url,link string, name, original uri
4941 \filename@parse{\#1}%
4942 \ifx\filename@ext\relax
4943 \edef\filename@ext{\XR@ext}%
4944 \fi
4945 \def\use@file{\filename@area\filename@base.\filename@ext}%
4946 \Hy@IfStringEndsWith\filename@ext\XR@ext{%
4947 \hyper@linkfile{\#2\}{\use@file}{\#3}%
4948 }{%
4949 \ifx\@baseurl\@empty
4950 \hyper@linkurl{\#2\}{%
4951 #4\ifx\#3\\\else\hyper@hash#3\fi
4952 }%
4953 \else
4954 \hyper@linkurl{\#2\}{\use@file\ifx\#3\\\else\hyper@hash#3\fi}%
4955 \fi
4956 }%
4957 }
4958 \def\Hy@IfStringEndsWith#1#2{%
```

```

4959 \begingroup
4960 \edef\x{#1}%
4961 \@onelevel@sanitize\x
4962 \edef\x{.\x$}%
4963 \edef\y{#2}%
4964 \@onelevel@sanitize\y
4965 \edef\y{.\y$}%
4966 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
4967   \endgroup
4968   \ifx\relax##2\relax
4969     \expandafter\ltx@secondoftwo
4970   \else
4971     \expandafter\ltx@firstoftwo
4972   \fi
4973 }%
4974 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
4975 }

4976 \def\Hy@StringLocalhost{localhost}
4977 \@onelevel@sanitize\Hy@StringLocalhost
4978 \def\Hy@CleanupFile#1{%
4979   \edef#1{#1}%
4980   \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}}%
4981 }
4982 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
4983   \begingroup
4984   \toks@{\endgroup}%
4985   \def\x{#1}%
4986   \ifx\x\@empty
4987     \def\x{#2}%
4988   \ifx\x\@empty
4989     \toks@{\endgroup\def#5{/#3}}%
4990   \else
4991     \@onelevel@sanitize\x
4992     \ifx\x\Hy@StringLocalhost
4993       \toks@{\endgroup\def#5{/#3}}%
4994     \fi
4995   \fi
4996   \fi
4997   \the\toks@
4998 }

```

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.

```

4999 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5000 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5001   \ifx\#1\%
5002     #2\Hy@Warning{Ignoring empty anchor}%
5003   \else
5004     \def\anchor@spot{#2#3}%
5005     \let\put@me@back\@empty
5006     \ifx\relax#2\relax
5007     \else

```

```

5008 \ifHy@nesting
5009 \else
5010 \ifcat a\noexpand#2\relax
5011 \else
5012 \ifcat 0\noexpand#2 \relax
5013 \else
5014 % \typeout{Anchor start is not alphanumeric %
5015 % on input line\the\inputlineno%
5016 % }%
5017 \let\anchor@spot\@empty
5018 \def\put@me@back{#2#3}%
5019 \fi
5020 \fi
5021 \fi
5022 \fi
5023 \ifHy@activeanchor
5024 \anchor@spot
5025 \else
5026 \hyper@anchor{#1}%
5027 \fi
5028 \expandafter\put@me@back
5029 \fi
5030 \let\anchor@spot\@empty
5031 }
5032 \def\anchor@spot{}

```

## 18 Compatibility with the *LT<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.

```

5033 \let\htmladding\hyperimage
5034 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5035 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5036 \def\htmlref#1#2{% anchor text, label
5037 \label@hyperref[{#2}]{#1}%
5038 }

```

This is really too much. The *LT<sub>E</sub>X2html* package defines its own `\hyperref` command, with a different syntax. Was this always here? Its weird, anyway. We interpret it in the 'printed' way, since we are about fidelity to the page.

```

5039 \def\@latex2htmlX{%
5040 \let\hhyperref\hyperref
5041 \def\hyperref##1##2##3##4{% anchor text for HTML
5042 % text to print before label in print
5043 % label
5044 % post-label text in print
5045 ##2\ref{##4}##3%
5046 }%
5047 }

```

## 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.

```
5048 \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
5049 \def\HyField@NewFlag#1#2{%
5050 \lowercase{\HyField@NewOption{#2}}}%
5051 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5052 }
```

```
\HyField@NewFlagOnly
5053 \def\HyField@NewFlagOnly#1#2{%
5054 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5055 }
```

```
\HyField@NewOption #1: option name
5056 \def\HyField@NewOption#1{%
5057 \expandafter\newif\csname ifFld@#1\endcsname
5058 \define@key{Field}{#1}[true]{%
5059 \lowercase{\Field@boolkey{##1}}{#1}%
5060 }%
5061 }
```

\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
5062 \def\HyField@NewBitsetFlag#1#2#3#4{%
5063 \begingroup
5064 \count@=#4\relax
5065 \advance\count@\m@ne
5066 \def\x##1{%
5067 \endgroup
5068 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5069 \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
5070 \expandafter\edef\csname HyField@#3@##1\endcsname{%
5071 (\number#4) #2%
5072 }%
5073 \else
5074 \expandafter\edef\csname HyField@#3@##1\endcsname{%
```

```

5075     \csname HyField@#3@#1\endcsname
5076     /#2%
5077     }%
5078     \fi
5079     }%
5080 \expandafter\x\expandafter{\the\count@}%
5081 }

```

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

```

5082 \def\HyField@UseFlag#1#2{%
5083   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5084 }

```

\HyField@@UseFlag

```

5085 \def\HyField@@UseFlag#1#2{%
5086   \bitsetSetValue{HyField@#2}{%
5087     \csname HyField@#2@#1\endcsname
5088   }{%
5089     \csname ifFld@#1\endcsname 1\else 0\fi
5090   }%
5091 }

```

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

```

5092 \def\HyField@SetFlag#1#2{%
5093   \lowercase{\HyField@@SetFlag{#2}}{#1}%
5094 }

```

\HyField@@SetFlag

```

5095 \def\HyField@@SetFlag#1#2{%
5096   \bitsetSetValue{HyField@#2}{%
5097     \csname HyField@#2@#1\endcsname
5098   }{1}%
5099 }

```

\HyField@PrintFlags

```

5100 \def\HyField@PrintFlags#1#2{%
5101   \ifHy@verbose
5102     \begingroup
5103     \let\Hy@temp\@empty
5104     \let\MessageBreak\relax
5105     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5106     \bitsetGetSetBitList{HyField@#1}\do{%
5107       \edef\Hy@temp{%
5108         \Hy@temp
5109         \csname HyField@#1@\x\endcsname\MessageBreak
5110       }%
5111     }%
5112   \edef\x{\endgroup
5113     \noexpand\Hy@Info{%
5114       Field flags: %
5115       \expandafter\ifx\@car#1\@nil S\else/\fi
5116       #1 %
5117       \bitsetGetDec{HyField@#1} %
5118       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5119     \Hy@temp
5120     for #2%

```

```

5121     }%
5122   }\x
5123 \fi
5124 }

```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5125 \HyField@NewFlag{Ff}{ReadOnly}{1}
5126 \HyField@NewFlag{Ff}{Required}{2}
5127 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5128 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5129 \HyField@NewFlag{Ff}{Radio}{16}
5130 \HyField@NewFlag{Ff}{Pushbutton}{17}
5131 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5132 \HyField@NewFlag{Ff}{Multiline}{13}
5133 \HyField@NewFlag{Ff}{Password}{14}
5134 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5135 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5136 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5137 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5138 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5139 \HyField@NewFlag{Ff}{Combo}{18}
5140 \HyField@NewFlag{Ff}{Edit}{19}
5141 \HyField@NewFlag{Ff}{Sort}{20}
5142 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5143 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5144 \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.

```

5145 \newif\ifFld@popdown
5146 \define@key{Field}{popdown}[true]{%
5147   \lowercase{\Field@boolkey{#1}}{popdown}%
5148 }

```

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.

```

5149 \HyField@NewFlag{F}{Invisible}{1}
5150 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5151 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5152 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5153 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5154 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5155 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5156 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5157 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

```

```

5158 \ifHy@pdfa
5159 \def\HyField@PDFAFldWarning#1#2{%
5160   \Hy@Warning{%
5161     PDF/A: Annotation flag '#1' must\MessageBreak
5162     be set to '#2'%
5163   }%
5164 }%
5165 \Fld@invisiblefalse
5166 \def\Fld@invisibletrue{%
5167   \HyField@PDFAFldWarning{invisible}{false}%
5168 }%
5169 \Fld@hiddenfalse
5170 \def\Fld@hiddentruetrue{%
5171   \HyField@PDFAFldWarning{hidden}{false}%
5172 }%
5173 \Fld@printtrue
5174 \def\Fld@printfalse{%
5175   \HyField@PDFAFldWarning{print}{true}%
5176 }%
5177 \Fld@nozoomtrue
5178 \def\Fld@nozoomfalse{%
5179   \HyField@PDFAFldWarning{nozoom}{true}%
5180 }%
5181 \Fld@norotatefalse
5182 \def\Fld@norotatefalse{%
5183   \HyField@PDFAFldWarning{norotate}{true}%
5184 }%
5185 \Fld@noviewfalse
5186 \def\Fld@noviewtrue{%
5187   \HyField@PDFAFldWarning{noview}{false}%
5188 }%
5189 \fi

```

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

```

5190 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5191 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5192 \HyField@NewFlag{Submit}{GetMethod}{4}
5193 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5194 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5195 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5196 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5197 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5198 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5199 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5200 \HyField@NewFlag{Submit}{ExclFKey}{12}
5201 \HyField@NewFlag{Submit}{EmbedForm}{14}

5202 \define@key{Field}{export}{%
5203   \lowercase{\def\Hy@temp{#1}}%
5204   \@ifundefined{Fld@export@\Hy@temp}{%
5205     \@onelevel@sanitize\Hy@temp
5206     \Hy@Error{%
5207       Unknown export format '\Hy@temp'\MessageBreak
5208       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5209     }%
5210   }%
5211   \let\Fld@export\Hy@temp
5212 }%

```

```

5213 }
5214 \def\Fld@export{fdf}
5215 \@namedef{Fld@export@fdf}{0}%
5216 \@namedef{Fld@export@html}{1}%
5217 \@namedef{Fld@export@xfdf}{2}%
5218 \@namedef{Fld@export@pdf}{3}%

```

### 19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5219 \def\HyField@FlagsSubmit{%
5220   \bitsetReset{HyField@Submit}%
5221   \ifcase\@nameuse{Fld@export@Fld@export} %
5222     % FDF
5223     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5224     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5225     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5226     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5227     \HyField@UseFlag{Submit}{CanonicalFormat}%
5228     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5229     \HyField@UseFlag{Submit}{ExclFKey}%
5230     \HyField@UseFlag{Submit}{EmbedForm}%
5231   \or % HTML
5232     \HyField@SetFlag{Submit}{ExportFormat}%
5233     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5234     \HyField@UseFlag{Submit}{GetMethod}%
5235     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5236     \HyField@UseFlag{Submit}{CanonicalFormat}%
5237   \or % XFDF
5238     \HyField@SetFlag{Submit}{XFDF}%
5239     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5240     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5241     \HyField@UseFlag{Submit}{CanonicalFormat}%
5242   \or % PDF
5243     \HyField@SetFlag{Submit}{SubmitPDF}%
5244     \HyField@UseFlag{Submit}{GetMethod}%
5245   \fi
5246   \HyField@PrintFlags{Submit}{submit button field}%
5247   \bitsetIsEmpty{HyField@Submit}{%
5248     \def\Fld@submitflags{%
5249     }{%
5250       \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}}%
5251   }%
5252 }

```

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5253 \def\HyField@FlagsAnnot#1{%
5254   \bitsetReset{HyField@F}%
5255   \HyField@UseFlag{F}{Invisible}%
5256   \HyField@UseFlag{F}{Hidden}%
5257   \HyField@UseFlag{F}{Print}%
5258   \HyField@UseFlag{F}{NoZoom}%
5259   \HyField@UseFlag{F}{NoRotate}%
5260   \HyField@UseFlag{F}{NoView}%

```

```

5261 \HyField@UseFlag{F}{Locked}%
5262 \HyField@UseFlag{F}{ToggleNoView}%
5263 \HyField@UseFlag{F}{LockedContents}%
5264 \HyField@PrintFlags{F}{#1}%
5265 \bitsetIsEmpty{HyField@F}{%
5266   \def\Fld@annotflags{%
5267   }{%
5268   \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
5269 }%
5270 }

```

#### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5271 \def\HyField@FlagsPushButton{%
5272 \HyField@FlagsAnnot{push button field}%
5273 \bitsetReset{HyField@Ff}%
5274 \HyField@UseFlag{Ff}{ReadOnly}%
5275 \HyField@UseFlag{Ff}{Required}%
5276 \HyField@UseFlag{Ff}{NoExport}%
5277 \HyField@SetFlag{Ff}{Pushbutton}%
5278 \HyField@PrintFlags{Ff}{push button field}%
5279 \bitsetIsEmpty{HyField@Ff}{%
5280   \def\Fld@flags{%
5281   }{%
5282   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5283 }%
5284 }

```

#### 19.1.5 Check box field

\HyField@FlagsCheckBox

```

5285 \def\HyField@FlagsCheckBox{%
5286 \HyField@FlagsAnnot{check box field}%
5287 \bitsetReset{HyField@Ff}%
5288 \HyField@UseFlag{Ff}{ReadOnly}%
5289 \HyField@UseFlag{Ff}{Required}%
5290 \HyField@UseFlag{Ff}{NoExport}%
5291 \HyField@PrintFlags{Ff}{check box field}%
5292 \bitsetIsEmpty{HyField@Ff}{%
5293   \def\Fld@flags{%
5294   }{%
5295   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5296 }%
5297 }

```

#### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5298 \def\HyField@FlagsRadioButton{%
5299 \HyField@FlagsAnnot{radio button field}%
5300 \bitsetReset{HyField@Ff}%
5301 \HyField@UseFlag{Ff}{ReadOnly}%
5302 \HyField@UseFlag{Ff}{Required}%
5303 \HyField@UseFlag{Ff}{NoExport}%
5304 \HyField@UseFlag{Ff}{NoToggleToOff}%

```

```

5305 \HyField@SetFlag{Ff}{Radio}%
5306 \HyField@UseFlag{Ff}{RadiosInUnison}%
5307 \HyField@PrintFlags{Ff}{radio button field}%
5308 \bitsetIsEmpty{HyField@Ff}{%
5309   \def\Fld@flags{%
5310   }{%
5311     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5312   }%
5313 }

```

### 19.1.7 Text fields

\HyField@FlagsText

```

5314 \def\HyField@FlagsText{%
5315   \HyField@FlagsAnnot{text field}%
5316   \bitsetReset{HyField@Ff}%
5317   \HyField@UseFlag{Ff}{ReadOnly}%
5318   \HyField@UseFlag{Ff}{Required}%
5319   \HyField@UseFlag{Ff}{NoExport}%
5320   \HyField@UseFlag{Ff}{Multiline}%
5321   \HyField@UseFlag{Ff}{Password}%
5322   \HyField@UseFlag{Ff}{FileSelect}%
5323   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5324   \HyField@UseFlag{Ff}{DoNotScroll}%
5325   \ifFld@comb
5326     \ifcase0\ifFld@multiline
5327       \else\ifFld@password
5328       \else\ifFld@fileselect
5329       \else 1\fi\fi\fi\relax
5330     \Hy@Error{%
5331       Field option ‘comb’ cannot used together with\MessageBreak
5332       ‘multiline’, ‘password’, or ‘fileselect’%
5333     }\@ehc
5334   \else
5335     \HyField@UseFlag{Ff}{Comb}%
5336   \fi
5337 \fi
5338 \HyField@UseFlag{Ff}{RichText}%
5339 \HyField@PrintFlags{Ff}{text field}%
5340 \bitsetIsEmpty{HyField@Ff}{%
5341   \def\Fld@flags{%
5342   }{%
5343     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5344   }%
5345 }

```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```

5346 \def\HyField@FlagsChoice{%
5347   \HyField@FlagsAnnot{choice field}%
5348   \bitsetReset{HyField@Ff}%
5349   \HyField@UseFlag{Ff}{ReadOnly}%
5350   \HyField@UseFlag{Ff}{Required}%
5351   \HyField@UseFlag{Ff}{NoExport}%
5352   \HyField@UseFlag{Ff}{Combo}%

```

```

5353 \ifFld@combo
5354 \HyField@UseFlag{Ff}{Edit}%
5355 \fi
5356 \HyField@UseFlag{Ff}{Sort}%
5357 \HyField@UseFlag{Ff}{MultiSelect}%
5358 \ifFld@combo
5359 \ifFld@edit
5360 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5361 \fi
5362 \fi
5363 \HyField@UseFlag{Ff}{CommitOnSelChange}%
5364 \HyField@PrintFlags{Ff}{choice field}%
5365 \bitsetIsEmpty{HyField@Ff}{%
5366 \def\Fld@flags{%
5367 }{%
5368 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5369 }%
5370 }

```

## 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.

```

5371 \def\HyField@PDFChoices#1{%
5372 \begingroup
5373 \gdef\Fld@choices{%
5374 \def\HyTmp@optlist{%
5375 \let\HyTmp@optitem\relax
5376 \count@=0 %
5377 \kv@parse{#1}{%
5378 \Hy@pdfstringdef\kv@key\kv@key
5379 \ifx\kv@value\relax
5380 \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5381 \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5382 \else
5383 \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5384 \fi
5385 \else
5386 \Hy@pdfstringdef\kv@value\kv@value
5387 \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5388 \fi
5389 \edef\HyTmp@optlist{%
5390 \HyTmp@optlist
5391 \HyTmp@optitem{\the\count@}{\kv@key}0%
5392 }%
5393 \advance\count@ by 1 %
5394 \@gobbletwo
5395 }%
5396 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5397 \ifFld@multiselect
5398 \HyField@@PDFChoices{DV}\Fld@default
5399 \HyField@@PDFChoices{V}\Fld@value
5400 \else
5401 \ifx\Fld@default\relax
5402 \else
5403 \pdfstringdef\Hy@gtemp\Fld@default

```

```

5404     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5405     \fi
5406     \ifx\Fld@value\relax
5407     \else
5408         \pdfstringdef\Hy@gtemp\Fld@value
5409         \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5410     \fi
5411 \fi
5412 \endgroup
5413 }

```

\HyField@@PDFChoices

```

5414 \def\HyField@@PDFChoices#1#2{%
5415     \ifx#2\relax
5416     \else
5417         \count@=0 %
5418         \def\HyTmp@optitem##1##2##3{%
5419             \def\HyTmp@key{##2}%
5420             \ifx\HyTmp@key\Hy@gtemp
5421                 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5422                     \HyTmp@optlist
5423                     \HyTmp@optitem{##1}{##2}1%
5424                 }%
5425                 \let\HyTmp@found=Y%
5426             \else
5427                 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5428                     \HyTmp@optlist
5429                     \HyTmp@optitem{##1}{##2}##3%
5430                 }%
5431             \fi
5432         }%
5433         \expandafter\comma@parse\expandafter{#2}{%
5434             \pdfstringdef\Hy@gtemp\comma@entry
5435             \let\HyTmp@found=N %
5436             \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5437             \HyTmp@optlist
5438             \ifx\HyTmp@found Y%
5439                 \advance\count@ by 1 %
5440             \else
5441                 \@onelevel@sanitize\comma@entry
5442                 \PackageWarning{hyperref}{%
5443                     \string\ChoiceBox: Ignoring value '\comma@entry',%
5444                     \MessageBreak
5445                     it cannot be found in the choices%
5446                 }%
5447             \fi
5448             \@gobble
5449         }%
5450         \def\HyTmp@optitem##1##2##3{%
5451             \ifnum##3=1 %
5452                 (##2)%
5453             \fi
5454         }%
5455         \ifcase\count@
5456         \or
5457             \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5458         \else

```

```

5459 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]]}%
5460 \ifx#1V%
5461 \def\HyTmp@optitem##1##2##3{%
5462 \ifnum##3=1 %
5463 \@firstofone{ ##1}%
5464 \fi
5465 }%
5466 \edef\HyTmp@optlist{\HyTmp@optlist}%
5467 \xdef\Fld@choices{%
5468 \Fld@choices
5469 /I[\expandafter\@firstofone\HyTmp@optlist]%
5470 }%
5471 \fi
5472 \fi
5473 \fi
5474 }

```

### 19.3 Forms

\HyField@SetKeys

```

5475 \def\HyField@SetKeys{%
5476 \kvsetkeys{Field}%
5477 }

5478 \newif\ifFld@checked
5479 \newif\ifFld@disabled
5480 \Fld@checkedfalse
5481 \Fld@disabledfalse
5482 \newcount\Fld@menulength
5483 \newdimen\Fld@Width
5484 \newdimen\Fld@charsize
5485 \Fld@charsize=10\p@
5486 \def\Fld@maxlen{0}
5487 \def\Fld@align{0}
5488 \def\Fld@color{0 0 0 rg}
5489 \def\Fld@bcolor{1 1 1}
5490 \def\Fld@bordercolor{1 0 0}
5491 \def\Fld@bordersep{1\p@}
5492 \def\Fld@borderwidth{1}
5493 \def\Fld@borderstyle{S}
5494 \def\Fld@cbsymbol{4}
5495 \def\Fld@radiosymbol{H}
5496 \def\Fld@rotation{0}
5497 \def\Form{\@ifnextchar{\@Form}{\@Form[]}}
5498 \def\endForm{\@endForm}
5499 \newif\ifForm@html
5500 \Form@htmlfalse
5501 \def\Form@boolkey#1#2{%
5502 \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5503 }
5504 \define@key{Form}{action}{%
5505 \hyper@normalise\Hy@DefFormAction{#1}%
5506 }
5507 \def\Hy@DefFormAction{\def\Form@action}
5508 \def\enc@html{html}
5509 \define@key{Form}{encoding}{%
5510 \def\Hy@tempa{#1}%

```

```

5511 \ifx\Hy@tempa\enc@@html
5512 \Form@htmltrue
5513 \def\Fld@export{html}%
5514 \else
5515 \Hy@Warning{%
5516   Form 'encoding' key with \MessageBreak
5517   unknown value '#1'%
5518 }%
5519 \Form@htmlfalse
5520 \fi
5521 }
5522 \define@key{Form}{method}{%
5523 \lowercase{\def\Hy@temp{#1}}%
5524 \@ifundefined{Form@method@\Hy@temp}{%
5525 \@onelevel@sanitize\Hy@temp
5526 \Hy@Error{%
5527   Unknown method '\Hy@temp'\MessageBreak
5528   Known values are 'post' and 'get'%
5529 } \@ehc
5530 }{%
5531 \let\Form@method\Hy@temp
5532 \ifcase\@nameuse{Form@method@\Hy@temp} %
5533 \Fld@getmethodfalse
5534 \else
5535 \Fld@getmethodtrue
5536 \fi
5537 }%
5538 }
5539 \def\Form@method{}
5540 \@namedef{Form@method@post}{0}
5541 \@namedef{Form@method@get}{1}

5542 \newif\ifHyField@NeedAppearances
5543 \def\HyField@NeedAppearancesfalse{%
5544 \global\let\ifHyField@NeedAppearances\iffalse
5545 }
5546 \def\HyField@NeedAppearancetrue{%
5547 \global\let\ifHyField@NeedAppearances\iftrue
5548 }
5549 \HyField@NeedAppearancetrue
5550 \define@key{Form}{NeedAppearances}[true]{%
5551 \edef\Hy@tempa{#1}%
5552 \ifx\Hy@tempa\Hy@true
5553 \HyField@NeedAppearancetrue
5554 \else
5555 \ifx\Hy@tempa\Hy@false
5556 \HyField@NeedAppearancesfalse
5557 \else
5558 \Hy@Error{%
5559   Unexpected value '\Hy@tempa'\MessageBreak
5560   of option 'NeedAppearances' instead of\MessageBreak
5561   'true' or 'false'%
5562 } \@ehc
5563 \fi
5564 \fi
5565 }
5566 \def\Field@boolkey#1#2{%
5567 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname

```

```

5568 }
5569 \ifHy@texht
5570 \newtoks\Field@toks
5571 \Field@toks={ }%
5572 \def\Field@addtoks#1#2{%
5573   \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5574   \@processme
5575 }%
5576 \else
5577 \def\Hy@WarnHTMLFieldOption#1{%
5578   \Hy@Warning{%
5579     HTML field option '#1'\MessageBreak
5580     is ignored%
5581   }%
5582 }%
5583 \fi
5584 \def\Fld@checkequals#1=#2=#3\\{%
5585   \def\@currDisplay{#1}%
5586   \ifx\\#2\\%
5587     \def\@currValue{#1}%
5588   \else
5589     \def\@currValue{#2}%
5590   \fi
5591 }
5592 \define@key{Field}{loc}{%
5593   \def\Fld@loc{#1}%
5594 }
5595 \define@key{Field}{checked}[true]{%
5596   \lowercase{\Field@boolkey{#1}}{checked}%
5597 }
5598 \define@key{Field}{disabled}[true]{%
5599   \lowercase{\Field@boolkey{#1}}{disabled}%
5600 }
5601 \ifHy@texht
5602 \define@key{Field}{accesskey}{%
5603   \Field@addtoks{accesskey}{#1}%
5604 }%
5605 \define@key{Field}{tabkey}{%
5606   \Field@addtoks{tabkey}{#1}%
5607 }%
5608 \else
5609 \define@key{Field}{accesskey}{%
5610   \Hy@WarnHTMLFieldOption{accesskey}%
5611 }%
5612 \define@key{Field}{tabkey}{%
5613   \Hy@WarnHTMLFieldOption{tabkey}%
5614 }%
5615 \fi
5616 \define@key{Field}{name}{%
5617   \def\Fld@name{#1}%
5618 }
5619 \let\Fld@altname\relax
5620 \define@key{Field}{altname}{%
5621   \def\Fld@altname{#1}%
5622 }
5623 \let\Fld@mappingname\relax
5624 \define@key{Field}{mappingname}{%

```

```

5625 \def\Fld@mappingname{#1}%
5626 }
5627 \define@key{Field}{width}{%
5628 \def\Fld@width{#1}%
5629 \Field@Width#1\setbox0=\hbox{m}%
5630 }
5631 \define@key{Field}{maxlen}{%
5632 \def\Fld@maxlen{#1}%
5633 }
5634 \define@key{Field}{menulength}{%
5635 \Fld@menulength=#1\relax
5636 }
5637 \define@key{Field}{height}{%
5638 \def\Fld@height{#1}%
5639 }
5640 \define@key{Field}{charsize}{%
5641 \Fld@charsize#1%
5642 }
5643 \define@key{Field}{borderwidth}{%
5644 \def\Fld@borderwidth{#1}%
5645 }
5646 \define@key{Field}{borderstyle}{%
5647 \let\Hy@temp\Fld@borderstyle
5648 \def\Fld@borderstyle{#1}%
5649 \Hy@Match\Fld@borderstyle{%
5650 ~[SDBIU]$%
5651 }{}{%
5652 \Hy@Warning{%
5653 Invalid value '\@pdfborderstyle'\MessageBreak
5654 for option 'pdfborderstyle'. Valid values:\MessageBreak
5655 \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
5656 \space\space I (Inset), U (Underline)\MessageBreak
5657 Option setting is ignored%
5658 }%
5659 \let\Fld@borderstyle\Hy@temp
5660 }%
5661 }
5662 \define@key{Field}{bordersep}{%
5663 \def\Fld@bordersep{#1}%
5664 }
5665 \define@key{Field}{default}{%
5666 \def\Fld@default{#1}%
5667 }
5668 \define@key{Field}{align}{%
5669 \def\Fld@align{#1}%
5670 }
5671 \define@key{Field}{value}{%
5672 \def\Fld@value{#1}%
5673 }
5674 \define@key{Field}{checkboxsymbol}{%
5675 \Fld@DingDef\Fld@cbsymbol{#1}%
5676 }
5677 \define@key{Field}{radiosymbol}{%
5678 \Fld@DingDef\Fld@radiosymbol{#1}%
5679 }
5680 \def\Fld@DingDef#1#2{%
5681 \def\Fld@temp{#1}%

```

```

5682 \Fld@@DingDef#2\ding{}}\@nil
5683 \let#1\Fld@temp
5684 }
5685 \def\Fld@@DingDef#1\ding#2#3\@nil{%
5686 \expandafter\def\expandafter\Fld@temp\expandafter{%
5687 \Fld@temp
5688 #1%
5689 }%
5690 \ifx\#3\%
5691 \expandafter\@gobble
5692 \else
5693 \begingroup
5694 \lccode'0=#2\relax
5695 \lowercase{\endgroup
5696 \expandafter\def\expandafter\Fld@temp\expandafter{%
5697 \Fld@temp
5698 0%
5699 }%
5700 }%
5701 \expandafter\@firstofone
5702 \fi
5703 {%
5704 \Fld@@DingDef#3\@nil
5705 }%
5706 }

5707 \define@key{Field}{rotation}{%
5708 \def\Fld@rotation{#1}%
5709 }

5710 \define@key{Field}{backgroundcolor}{%
5711 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5712 }
5713 \define@key{Field}{bordercolor}{%
5714 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5715 }
5716 \define@key{Field}{color}{%
5717 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5718 }

5719 \def\Fld@onclick@code{}
5720 \def\Fld@format@code{}
5721 \def\Fld@validate@code{}
5722 \def\Fld@calculate@code{}
5723 \def\Fld@keystroke@code{}
5724 \def\Fld@onfocus@code{}
5725 \def\Fld@onblur@code{}
5726 \def\Fld@onmousedown@code{}
5727 \def\Fld@onmouseup@code{}
5728 \def\Fld@onenter@code{}
5729 \def\Fld@onexit@code{}
5730 \def\Hy@temp#1{%
5731 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5732 }
5733 \def\Hy@@temp#1#2{%
5734 \ifHy@pdfa
5735 \define@key{Field}{#2}{%
5736 \Hy@Error{%
5737 PDF/A: Additional action '#2' is prohibited%

```

```

5738     }\@ehc
5739  }%
5740 \else
5741   \define@key{Field}{#2}{%
5742     \def#1{##1}%
5743   }%
5744 \fi
5745 }
5746 \Hy@temp{keystroke}
5747 \Hy@temp{format}
5748 \Hy@temp{validate}
5749 \Hy@temp{calculate}
5750 \Hy@temp{onfocus}
5751 \Hy@temp{onblur}
5752 \Hy@temp{onenter}
5753 \Hy@temp{onexit}
5754 \ifHy@texht
5755   \def\Hy@temp#1{%
5756     \define@key{Field}{#1}{%
5757       \Field@addtoks{#1}{##1}%
5758     }%
5759   }%
5760 \else
5761   \def\Hy@temp#1{%
5762     \define@key{Field}{#1}{%
5763       \Hy@WarnHTMLFieldOption{#1}%
5764     }%
5765   }%
5766 \fi
5767 \Hy@temp{ondblclick}
5768 \Hy@temp{onmousedown}
5769 \Hy@temp{onmouseup}
5770 \Hy@temp{onmouseover}
5771 \Hy@temp{onmousemove}
5772 \Hy@temp{onmouseout}
5773 \Hy@temp{onkeydown}
5774 \Hy@temp{onkeyup}
5775 \Hy@temp{onselect}
5776 \Hy@temp{onchange}
5777 \Hy@temp{onkeypress}
5778 \ifHy@texht
5779   \define@key{Field}{onclick}{%
5780     \Field@addtoks{onclick}{#1}%
5781   }%
5782 \else
5783   \ifHy@pdfa
5784     \define@key{Field}{onclick}{%
5785       \Hy@Error{%
5786         PDF/A: Action 'onclick' is prohibited%
5787       }\@ehc
5788     }%
5789   \else
5790     \define@key{Field}{onclick}{%
5791       \def\Fld@onclick@code{#1}%
5792     }%
5793   \fi
5794 \fi

```

```

5795 \DeclareRobustCommand\TextField{%
5796   \ifnextchar[{\@TextField}{\@TextField[]}%
5797 }
5798 \DeclareRobustCommand\ChoiceMenu{%
5799   \ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
5800 }
5801 \DeclareRobustCommand\CheckBox{%
5802   \ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5803 }
5804 \DeclareRobustCommand\PushButton{%
5805   \ifnextchar[{\@PushButton}{\@PushButton[]}%
5806 }
5807 \DeclareRobustCommand\Gauge{%
5808   \ifnextchar[{\@Gauge}{\@Gauge[]}%
5809 }
5810 \DeclareRobustCommand\Submit{%
5811   \ifnextchar[{\@Submit}{\@Submit[]}%
5812 }
5813 \DeclareRobustCommand\Reset{%
5814   \ifnextchar[{\@Reset}{\@Reset[]}%
5815 }
5816 \def\LayoutTextField#1#2{% label, field
5817   #1 #2%
5818 }
5819 \def\LayoutChoiceField#1#2{% label, field
5820   #1 #2%
5821 }
5822 \def\LayoutCheckField#1#2{% label, field
5823   #1 #2%
5824 }
5825 \def\LayoutPushButtonField#1{% button
5826   #1%
5827 }
5828 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5829 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5830 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5831 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5832 \def\MakeButtonField#1{%
5833   \sbox0{%
5834     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
5835   }%
5836   \@tempdima\ht0 %
5837   \advance\@tempdima by \Fld@borderwidth bp %
5838   \advance\@tempdima by \Fld@borderwidth bp %
5839   \ht0\@tempdima
5840   \@tempdima\dp0 %
5841   \advance\@tempdima by \Fld@borderwidth bp %
5842   \advance\@tempdima by \Fld@borderwidth bp %
5843   \dp0\@tempdima
5844   \box0\relax
5845 }
5846 \def\DefaultHeightofSubmit{14pt}
5847 \def\DefaultWidthofSubmit{2cm}
5848 \def\DefaultHeightofReset{14pt}
5849 \def\DefaultWidthofReset{2cm}
5850 \def\DefaultHeightofCheckBox{\baselineskip}
5851 \def\DefaultWidthofCheckBox{\baselineskip}

```

```

5852 \def\DefaultHeightofChoiceMenu{\baselineskip}
5853 \def\DefaultWidthofChoiceMenu{\baselineskip}
5854 \def\DefaultHeightofText{\baselineskip}
5855 \def\DefaultHeightofTextMultiline{4\baselineskip}
5856 \def\DefaultWidthofText{3cm}
5857 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
5858 \def\DefaultOptionsofReset{print,name=Reset,noexport}
5859 \def\DefaultOptionsofPushButton{print}
5860 \def\DefaultOptionsofCheckBox{print}
5861 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

5862 \def\DefaultOptionsofListBox{print}
5863 \def\DefaultOptionsofComboBox{print,edit,sort}
5864 \def\DefaultOptionsofPopdownBox{print}
5865 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```

5866 \ifHy@figures
5867 \Hy@Info{Hyper figures ON}%
5868 \else
5869 \Hy@Info{Hyper figures OFF}%
5870 \fi
5871 \ifHy@nesting
5872 \Hy@Info{Link nesting ON}%
5873 \else
5874 \Hy@Info{Link nesting OFF}%
5875 \fi
5876 \ifHy@hyperindex
5877 \Hy@Info{Hyper index ON}%
5878 \else
5879 \Hy@Info{Hyper index OFF}%
5880 \fi
5881 \ifHy@backref
5882 \Hy@Info{backreferencing ON}%
5883 \else
5884 \Hy@Info{backreferencing OFF}%
5885 \fi
5886 \ifHy@colorlinks
5887 \Hy@Info{Link coloring ON}%
5888 \else
5889 \Hy@Info{Link coloring OFF}%
5890 \fi
5891 \ifHy@ocgcolorlinks
5892 \Hy@Info{Link coloring with OCG ON}%
5893 \else
5894 \Hy@Info{Link coloring with OCG OFF}%
5895 \fi
5896 \ifHy@pdfa
5897 \Hy@Info{PDF/A mode ON}%
5898 \else
5899 \Hy@Info{PDF/A mode OFF}%
5900 \fi

```

## 21 Low-level utility macros

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

```
5901 \edef\hyper@hash{\string#}  
5902 \edef\hyper@tilde{\string~}  
5903 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
5904 \def\@currentHref{Doc-Start}  
5905 \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.

```
5906 \Hy@AtBeginDocument{%  
5907   \Hy@pdfstringtrue  
5908   \PDF@SetupDoc  
5909   \let\PDF@SetupDoc\@empty  
5910   \Hy@DisableOption{pdfpagescrop}%  
5911   \Hy@DisableOption{pdfpagemode}%  
5912   \Hy@DisableOption{pdfnonfullscreenpagemode}%  
5913   \Hy@DisableOption{pdfdirection}%  
5914   \Hy@DisableOption{pdfviewarea}%  
5915   \Hy@DisableOption{pdfviewclip}%  
5916   \Hy@DisableOption{pdfprintarea}%  
5917   \Hy@DisableOption{pdfprintclip}%  
5918   \Hy@DisableOption{pdfprintscaling}%  
5919   \Hy@DisableOption{pdfduplex}%  
5920   \Hy@DisableOption{pdfpicktraybypdfsize}%  
5921   \Hy@DisableOption{pdfprintpagerange}%  
5922   \Hy@DisableOption{pdfnumcopies}%  
5923   \Hy@DisableOption{pdfstartview}%  
5924   \Hy@DisableOption{pdfstartpage}%  
5925   \Hy@DisableOption{pdftoolbar}%  
5926   \Hy@DisableOption{pdfmenubar}%  
5927   \Hy@DisableOption{pdfwindowui}%  
5928   \Hy@DisableOption{pdfitwindow}%  
5929   \Hy@DisableOption{pdfcenterwindow}%  
5930   \Hy@DisableOption{pdfdisplaydoctitle}%  
5931   \Hy@DisableOption{pdfpagelayout}%  
5932   \Hy@DisableOption{pdflang}%  
5933   \Hy@DisableOption{baseurl}%  
5934   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi  
5935   \Hy@pdfstringfalse  
5936 }
```

Ignore star from referencing macros:

```
5937 \LetLtxMacro\NoHy@OrgRef\ref  
5938 \DeclareRobustCommand*\ref{%  
5939   \@ifstar\NoHy@OrgRef\NoHy@OrgRef  
5940 }  
5941 \LetLtxMacro\NoHy@OrgPageRef\pageref  
5942 \DeclareRobustCommand*\pageref{%  
5943   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef  
5944 }
```

## 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 hyperref functions doing anything. This is used, for instance, in the Elsevier classes, to stop hyperref playing havoc in the front matter.

```
5945 \def\NoHyper{%
5946   \def\hyper@link@{##1}##2##3##4{##4}%
5947   \def\hyper@@anchor##1{%
5948     \global\let\hyper@livelink\hyper@link
5949     \gdef\hyper@link##1##2##3{##3}%
5950     \def\hyper@anchor##1{%
5951       \def\hyper@anchorstart##1{%
5952         \let\hyper@anchorend\@empty
5953         \def\hyper@linkstart##1##2{%
5954           \let\hyper@linkend\@empty
5955           \def\hyper@linkurl##1##2{##1}%
5956           \def\hyper@linkfile##1##2##3{##1}%
5957           \def\hyper@link@{##1}##2##3{%
5958             \let\Hy@backout\@gobble
5959         }
5960         \def\stop@hyper{%
5961           \def\hyper@link@{##1}##2##3##4{##4}%
5962           \let\Hy@backout\@gobble
5963           \def\hyper@@anchor##1{%
5964             \def\hyper@link##1##2##3{##3}%
5965             \def\hyper@anchor##1{%
5966               \def\hyper@anchorstart##1{%
5967                 \let\hyper@anchorend\@empty
5968                 \def\hyper@linkstart##1##2{%
5969                   \let\hyper@linkend\@empty
5970                   \def\hyper@linkurl##1##2{##1}%
5971                   \def\hyper@linkfile##1##2##3{##1}%
5972                   \def\hyper@link@{##1}##2##3{%
5973                 }
5974               \def\endNoHyper{%
5975                 \global\let\hyper@link\hyper@livelink
5976               }
5977             }
5978           }
5979           \RequirePackage{letltxmacro}[2008/06/13]
5980           \let\hyper@@anchor\@gobble
5981           \def\hyper@link##1##2##3{##3}%
5982           \let\hyper@anchorstart\@gobble
5983           \let\hyper@anchorend\@empty
5984           \let\hyper@linkstart\@gobbletwo
```

## 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:

```
5978 \*nohyperref
5979 \RequirePackage{letltxmacro}[2008/06/13]
5980 \let\hyper@@anchor\@gobble
5981 \def\hyper@link##1##2##3{##3}%
5982 \let\hyper@anchorstart\@gobble
5983 \let\hyper@anchorend\@empty
5984 \let\hyper@linkstart\@gobbletwo
```

```

5985 \let\hyper@linkend\@empty
5986 \def\hyper@linkurl#1#2{#1}%
5987 \def\hyper@linkfile#1#2#3{#1}%
5988 \def\hyper@link@{#1}#2#3{}%
5989 \let\PDF@SetupDoc\@empty
5990 \let\PDF@FinishDoc\@empty
5991 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

5992 \def\Acrobatmenu#1#2{\leavevmode#2}
5993 \let\pdfstringdefDisableCommands\@gobbletwo
5994 \let\texorpdfstring\@firstoftwo
5995 \let\pdfbookmark\@undefined
5996 \newcommand\pdfbookmark[3]{}{}
5997 \let\phantomsection\@empty
5998 \let\hypersetup\@gobble
5999 \let\hyperbaseurl\@gobble
6000 \newcommand*{\href}[3]{}{#3}
6001 \let\hyperdef\@gobbletwo
6002 \let\hyperlink\@gobble
6003 \let\hypertarget\@gobble
6004 \def\hyperref{%
6005   \ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6006 }
6007 \long\def\@gobbleopt[#1]{}
6008 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

6009 \LetLtxMacro\NoHy@OrgRef\ref
6010 \DeclareRobustCommand*\ref{%
6011   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6012 }
6013 \LetLtxMacro\NoHy@OrgPageRef\pageref
6014 \DeclareRobustCommand*\pageref{%
6015   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6016 }
6017 \</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}

```

6018 \<*package>
6019 \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.

```

6020 \if@files
6021   \ifHy@typexml
6022     \immediate\closeout\@mainaux
6023     \immediate\openout\@mainaux\jobname.aux\relax
6024     \immediate\write\@auxout{<relaxxml>\relax}%
6025   \fi
6026   \immediate\write\@auxout{%
6027     \string\providecommand\string\HyperFirstAtBeginDocument{%

```

```

6028     \string\AtBeginDocument}^^J%
6029     \string\HyperFirstAtBeginDocument{%
6030     \string\ifx\string\hyper@anchor\string\@undefined^^J%
6031     \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6032     \string\gdef\string\contentsline%
6033     \string#1\string#2\string#3\string#4{%
6034     \string\oldcontentsline%
6035     {\string#1}{\string#2}{\string#3}}^^J%
6036     \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6037     \string\gdef\string\newlabel\string#1\string#2{%
6038     \string\newlabelxx{\string#1}\string#2}^^J%
6039     \string\gdef\string\newlabelxx%
6040     \string#1\string#2\string#3\string#4\string#5\string#6{%
6041     \string\oldnewlabel{\string#1}{\string#2}{\string#3}}^^J%

```

```

6042 \string\AtEndDocument{%
6043 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6044 \string\let\string\contentsline\string\oldcontentsline^^J%
6045 \string\let\string\newlabel\string\oldnewlabel^^J%
6046 \string\fi%
6047 }^^J%

```

```

6048     \string\fi%
6049   }~~J%
6050   \string\global\string\let\string\hyper@last\relax~~J%
6051   \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6052 }%
6053 \fi
6054 \def\HyperFirstAtBeginDocument#1{#1}%

```

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

## 25 Title strings

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

```

6074 \ifHy@usetitle
6075   \let\HyOrg@title\title
6076   \let\HyOrg@author\author
6077   \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6078   \def\Hy@scanopttitle[#1]{%
6079     \gdef\Hy@title{#1}%
6080     \HyOrg@title{#1}%
6081   }%
6082   \def\Hy@scantitle#1{%
6083     \gdef\Hy@title{#1}%
6084     \HyOrg@title{#1}%
6085   }%
6086   \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6087   \def\Hy@scanoptauthor[#1]{%
6088     \gdef\Hy@author{#1}%
6089     \HyOrg@author{#1}%
6090   }%
6091   \def\Hy@scanauthor#1{%
6092     \gdef\Hy@author{#1}%
6093     \HyOrg@author{#1}%
6094   }%

```

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.

```

6095 \begingroup
6096   \def\process@me#1\@nil#2{%
6097     \expandafter\let\expandafter\x\csname @#2\endcsname
6098     \edef\y{\expandafter\strip@prefix\meaning\x}%
6099     \def\c##1#1##2\@nil{%
6100       \ifx\\##1\\%
6101         \else
6102           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6103             \expandafter{x}%
6104         \fi
6105       }%
6106       \expandafter\c\y\relax#1\@nil
6107     }%
6108     \expandafter\process@me\string\@latex@\@nil{title}%
6109     \expandafter\process@me\string\@latex@\@nil{author}%
6110   \endgroup
6111 \fi
6112 \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.

```

6113 \def\Hy@UseMaketitleString#1{%

```

```

6114 \ltx@ifundefined{Hy@#1}{ }{%
6115   \begingroup
6116   \let\Hy@saved@hook\pdfstringdefPreHook
6117   \pdfstringdefDisableCommands{%
6118     \expandafter\let\expandafter\\csname Hy@newline@#1\endcsname
6119     \let\newline\\%
6120   }%
6121   \expandafter\ifx\csname @pdf#1\endcsname\@empty
6122     \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6123       \csname Hy@#1\endcsname\@empty
6124     }%
6125   \fi
6126   \global\let\pdfstringdefPreHook\Hy@saved@hook
6127 \endgroup
6128 }%
6129 }
6130 \def\Hy@newline@title#1{ #1}
6131 \def\Hy@newline@author#1{, #1}
6132 \def\Hy@UseMaketitleInfos{%
6133   \Hy@UseMaketitleString{title}%
6134   \Hy@UseMaketitleString{author}%
6135 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```

6136 \RequirePackage{atbegshi}[2007/09/09]
6137 \def\Hy@EveryPageHook{}
6138 \def\Hy@EveryPageBoxHook{}
6139 \def\Hy@FirstPageHook{}
6140 \AtBeginShipout{%
6141   \Hy@EveryPageHook
6142   \ifx\Hy@EveryPageBoxHook\@empty
6143     \else
6144       \setbox\AtBeginShipoutBox=\vbox{%
6145         \offinterlineskip
6146         \Hy@EveryPageBoxHook
6147         \box\AtBeginShipoutBox
6148       }%
6149     \fi
6150 }
6151 \AtBeginShipoutFirst{%
6152   \Hy@FirstPageHook
6153 }
6154 \g@addto@macro\Hy@FirstPageHook{%
6155   \PDF@FinishDoc
6156   \gdef\PDF@FinishDoc{ }%
6157 }

```

### 27.1 PDF /PageLabels

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

```

6158 \ifHy@pagelabels
6159 \begingroup\expandafter\expandafter\expandafter\endgroup
6160 \expandafter\ifx\csname thepage\endcsname\relax
6161 \Hy@pagelabelsfalse
6162 \Hy@WarningNoLine{%
6163   Option 'pdfpagelabels' is turned off\MessageBreak
6164   because \string\thepage\space is undefined%
6165 }%
6166 \csname fi\endcsname
6167 \csname iffalse\expandafter\endcsname
6168 \fi

```

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

```

6169 \def\thispdfpagelabel#1{%
6170   \gdef\HyPL@thisLabel{#1}%
6171 }%
6172 \global\let\HyPL@thisLabel\relax

```

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

```

6173 \def\HyPL@Labels{}%

```

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

```

6174 \newcount\Hy@abspage
6175 \Hy@abspage=0 %

```

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

```

6176 \def\HyPL@LastType{init}%
6177 \def\HyPL@LastNumber{0}%
6178 \def\HyPL@LastPrefix{}%

```

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

```

6179 \def\HyPL@arabic{D}%
6180 \def\HyPL@Roman{R}%
6181 \def\HyPL@roman{r}%
6182 \def\HyPL@Alph{A}%
6183 \def\HyPL@alph{a}%

6184 \def\HyPL@SlidesSetPage{}%
6185 \ltx@ifclassloaded{slides}{%
6186   \def\HyPL@SlidesSetPage{%
6187     \advance\c@page\ltx@one
6188     \ifnum\value{page}>\ltx@one
6189       \protected@edef\HyPL@SlidesOptionalPage{%
6190         \Hy@SlidesFormatOptionalPage{\thepage}%
6191       }%
6192     \else
6193       \def\HyPL@SlidesOptionalPage{}%
6194     \fi
6195     \advance\c@page-\ltx@one
6196     \def\HyPL@page{%
6197       \csname the\Hy@SlidesPage\endcsname
6198       \HyPL@SlidesOptionalPage
6199     }%
6200   }%
6201 }{}%

```

`\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.

```

6202 \def\HyPL@EveryPage{%
6203   \begingroup
6204   \ifx\HyPL@thisLabel\relax
6205     \let\HyPL@page\thepage
6206     \HyPL@SlidesSetPage
6207   \else
6208     \let\HyPL@page\HyPL@thisLabel
6209     \global\let\HyPL@thisLabel\relax
6210   \fi
6211   \let\HyPL@Type\relax
6212   \ifnum\the\c@page>0 %
6213     \ifx\HyPL@SlidesSetPage\ltx@empty
6214       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6215     \fi
6216   \fi
6217   \let\Hy@temp Y%
6218   \ifx\HyPL@Type\HyPL@LastType
6219   \else
6220     \let\Hy@temp N%
6221   \fi
6222   \ifx\HyPL@Type\relax
6223     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6224   \else
6225     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6226   \fi
6227   \ifx\HyPL@Prefix\HyPL@LastPrefix
6228   \else
6229     \let\Hy@temp N%
6230   \fi
6231   \if Y\Hy@temp
6232     \advance\c@page by -1 %
6233     \ifnum\HyPL@LastNumber=\the\c@page\relax
6234     \else
6235       \let\Hy@temp N%
6236     \fi
6237     \Hy@StepCount\c@page
6238   \fi
6239   \if N\Hy@temp
6240     \ifx\HyPL@Type\relax
6241       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6242     \else
6243       \HyPL@StorePageLabel{%
6244         \ifx\HyPL@Prefix\@empty
6245         \else
6246           /P(\HyPL@Prefix)%
6247         \fi
6248         /S/\csname HyPL\HyPL@Type\endcsname
6249         \ifnum\the\c@page=1 %
6250         \else
6251           \space/St \the\c@page
6252         \fi
6253       }%
6254     \fi
6255   \fi
6256   \xdef\HyPL@LastNumber{\the\c@page}%

```

```

6257 \global\let\HyPL@LastType\HyPL@Type
6258 \global\let\HyPL@LastPrefix\HyPL@Prefix
6259 \endgroup
6260 \Hy@GlobalStepCount\Hy@abspage
6261 }%

```

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

```

6262 \def\HyPL@CheckThePage#1\@nil{%
6263 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6264 }%

```

`\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`.

```

6265 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6266 \def\Hy@tempa{#4}%
6267 \def\Hy@tempb{\csname\endcsname\c@page}%
6268 \ifx\Hy@tempa\Hy@tempb
6269 \expandafter\ifx\csname HyPL#3\endcsname\relax
6270 \else
6271 \def\HyPL@Type{#3}%
6272 \def\HyPL@Prefix{#2}%
6273 \fi
6274 \else
6275 \begingroup
6276 \let\Hy@next\endgroup
6277 \let\HyPL@found\@undefined
6278 \def\arabic{\HyPL@Format{arabic}}%
6279 \def\Roman{\HyPL@Format{Roman}}%
6280 \def\roman{\HyPL@Format{roman}}%
6281 \def\Alph{\HyPL@Format{Alph}}%
6282 \def\alph{\HyPL@Format{alph}}%
6283 \protected@edef\Hy@temp{#1}%
6284 \ifx\HyPL@found\relax
6285 \toks@{\expandafter{\Hy@temp}}%
6286 \edef\Hy@next{\endgroup
6287 \noexpand\HyPL@@CheckThePage\the\toks@
6288 \noexpand\HyPL@found\relax\noexpand\@nil
6289 }%
6290 \fi
6291 \Hy@next
6292 \fi
6293 }%

```

`\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`.

```

6294 \def\HyPL@Format#1#2{%
6295 \ifx\HyPL@found\@undefined
6296 \expandafter\ifx\csname c@#2\endcsname\c@page
6297 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6298 \else
6299 \expandafter\noexpand\csname#1\endcsname{#2}%
6300 \fi

```

```

6301 \else
6302 \expandafter\noexpand\csname#1\endcsname{#2}%
6303 \fi
6304 }%

```

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

```

6305 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6306 \def\Hy@tempa{#3}%
6307 \def\Hy@tempb{\HyPL@found\relax}%
6308 \ifx\Hy@tempa\Hy@tempb
6309 \def\HyPL@Type{#2}%
6310 \def\HyPL@Prefix{#1}%
6311 \fi
6312 }%

```

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

```

6313 \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`.

```

6314 \def\HyPL@Useless{0<</S/D>>}%
6315 \@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.

```

6316 \def\HyPL@SetPageLabels{%
6317 \@onelevel@sanitize\HyPL@Labels
6318 \ifx\HyPL@Labels\@empty
6319 \else
6320 \ifx\HyPL@Labels\HyPL@Useless
6321 \else
6322 \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6323 \fi
6324 \fi
6325 }%

```

```

6326 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6327 \fi

```

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

```

6328 \Hy@DisableOption{pdfpagelabels}
6329 </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`

```

6330 <*pdfTeX>
6331 \pdf@ifdraftmode{%
6332 \let\Hy@PutCatalog\ltx@gobble
6333 }{%
6334 \let\Hy@PutCatalog\pdfcatalog
6335 }
6336 </pdfTeX>

```

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.

```

6337 < *vtex>
6338 \providecommand*{\XR@ext}{pdf}
6339 \edef\Hy@VTeXversion{%
6340   \ifx\VTeXversion\@undefined
6341     \z@
6342   \else
6343     \ifx\VTeXversion\relax
6344       \z@
6345     \else
6346       \VTeXversion
6347     \fi
6348   \fi
6349 }
6350 \begingroup
6351   \ifnum\Hy@VTeXversion<660 %
6352     \gdef\Hy@PutCatalog#1{%
6353       \Hy@WarningNoLine{%
6354         VTeX 6.59g or above required for pdfpagelabels%
6355       }%
6356     }%
6357   \else
6358     \gdef\Hy@PutCatalog#1{%
6359       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6360     }%
6361     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6362       \ifx\#2\%
6363         \else
6364           \immediate\special{!pdfpagelabels #2}%
6365         \fi
6366       }%
6367     \fi
6368 \endgroup
6369 < /vtex>

6370 < *pdfTeX | vtex>

```

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

```

6371 \ifHy@pagelabels
6372   \def\HyPL@StorePageLabel#1{%
6373     \toks@\expandafter{\HyPL@Labels}%
6374     \xdef\HyPL@Labels{%
6375       \the\toks@
6376       \the\Hy@abspage<<#1>>%
6377     }%
6378   }%

```

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.

```

6379 \RequirePackage{atveryend}[2009/12/07]%
6380 \AtVeryEndDocument{%
6381   \HyPL@SetPageLabels
6382 }%

```

```

6383 \fi
6384 </pdfTeX | vTeX>

```

### 27.1.2 xetex

```

6385 <*xetex>
6386 \HyPsd@LoadUnicode
6387 \Hy@unicodetrue
6388 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6389 \else
6390 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6391 \fi
6392 \HyPsd@LoadStringEncoding
6393 \define@key{Hyp}{unicode}[true]{%
6394 \Hy@boolkey{unicode}{#1}%
6395 \ifHy@unicode
6396 \else
6397 \Hy@Warning{%
6398 XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6399 option setting 'unicode=false'%
6400 }%
6401 \Hy@unicodetrue
6402 \fi
6403 }
6404 \define@key{Hyp}{pdfencoding}{%
6405 \edef\HyPsd@temp{#1}%
6406 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6407 \let\HyPsd@pdfencoding\HyPsd@temp
6408 \else
6409 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6410 \let\HyPsd@pdfencoding\HyPsd@temp
6411 \else
6412 \Hy@Warning{%
6413 XeTeX driver only supports\MessageBreak
6414 'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6415 setting 'pdfencoding=\HyPsd@temp'%
6416 }%
6417 \fi
6418 \fi
6419 }
6420 \let\HyXeTeX@CheckUnicode\relax
6421 </xetex>

```

### 27.1.3 pdfmarkbase, dvipdfm, xetex

```

6422 <*pdfmarkbase>
6423 \begingroup
6424 \@ifundefined{headerps@out}{%
6425 \toks@\expandafter{\Hy@FirstPageHook}%
6426 \xdef\Hy@FirstPageHook{%
6427 \noexpand\headerps@out{%
6428 systemdict /pdfmark known%
6429 {%
6430 userdict /?pdfmark systemdict /exec get put%
6431 }{%
6432 userdict /?pdfmark systemdict /pop get put %
6433 userdict /pdfmark systemdict /cleartomark get put%
6434 }%

```

```

6435     ifelse%
6436     }%
6437     \the\toks@
6438     }%
6439     }%
6440 \endgroup
6441 \</pdfmarkbase>

```

\Hy@PutCatalog

```

6442 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfmark{docview << #1 >>}}
6443 \<*pdfmarkbase>
6444 \def\Hy@PutCatalog#1{%
6445   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
6446 }
6447 \</pdfmarkbase>

6448 \<*pdfmarkbase | dvipdfm | xetex>
6449 \ifHy@pagelabels

```

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

```

6450 \def\HyPL@StorePageLabel#1{%
6451   \if@filesw
6452     \begingroup
6453     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6454     \immediate\write\@mainaux{%
6455       \string\HyPL@Entry{\Hy@tempa}%
6456     }%
6457     \endgroup
6458   \fi
6459 }%

```

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.

```

6460 \Hy@AtBeginDocument{%
6461   \if@filesw
6462     \immediate\write\@mainaux{%
6463       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6464     }%
6465   \fi
6466   \ifx\HyPL@Labels\@empty
6467     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6468   \else
6469     \HyPL@SetPageLabels
6470   \fi
6471   \let\HyPL@Entry\@gobble
6472 }%

```

\HyPL@Entry

```

6473 \def\HyPL@Entry#1{%
6474   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6475     \HyPL@Labels
6476     #1%
6477   }%
6478 }%

6479 \fi
6480 \</pdfmarkbase | dvipdfm | xetex>

```

```

6481 <*package>
6482 \MaybeStopEarly

```

## 28 Automated L<sup>A</sup>T<sub>E</sub>X hypertext cross-references

Anything which can be referenced advances some counter; we overload this to put in a hypertext starting point (with no visible anchor), and make a note of that for later use in `\label`. This will fail badly if `\theH<name>` does not expand to a sensible reference. This means that classes or package which introduce new elements need to define an equivalent `\theH<name>` for every `\the<name>`. We do make a trap to make `\theH<name>` be the same as `\arabic{<name>}`, if `\theH<name>` is not defined, but this is not necessarily a good idea. Alternatively, the ‘naturalnames’ option uses whatever L<sup>A</sup>T<sub>E</sub>X provides, which may be useable. But then its up to you to make sure these are legal PDF and HTML names. The ‘hypertextnames=false’ option just makes up arbitrary names.

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

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

Start with a fallback for equations

```

6483 \def\Hy@CounterExists#1{%
6484   \begingroup\expandafter\expandafter\expandafter\endgroup
6485   \expandafter\ifx\csname c@#1\endcsname\relax
6486     \expandafter\@gobble
6487   \else
6488     \begingroup\expandafter\expandafter\expandafter\endgroup
6489     \expandafter\ifx\csname the#1\endcsname\relax
6490       \expandafter\expandafter\expandafter\@gobble
6491     \else
6492       \expandafter\expandafter\expandafter\@firstofone
6493     \fi
6494   \fi
6495 }
6496 \Hy@CounterExists{section}{%
6497   \newcommand\theHequation{\theHsection.\arabic{equation}}}%
6498 }
6499 \Hy@CounterExists{part}{%
6500   \newcommand\theHpart{\arabic{part}}}%
6501 }
6502 \ltx@ifundefined{thechapter}{%
6503   \newcommand\theHsection   {\arabic{section}}}%
6504   \newcommand\theHfigure    {\arabic{figure}}}%
6505   \newcommand\theHtable     {\arabic{table}}}%
6506 }{%
6507   \newcommand\theHchapter   {\arabic{chapter}}}%
6508   \newcommand\theHfigure    {\theHchapter.\arabic{figure}}}%
6509   \newcommand\theHtable     {\theHchapter.\arabic{table}}}%
6510   \newcommand\theHsection   {\theHchapter.\arabic{section}}}%
6511 }
6512 \newcommand\theHsubsection  {\theHsection.\arabic{subsection}}
6513 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6514 \newcommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
6515 \newcommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}

```

```

6516 \newcommand\theHtheorem    {\theHsection.\arabic{theorem}}
6517 \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.

```

6518 \let\H@item\item
6519 \newcounter{Item}
6520 \def\theHItem{\arabic{Item}}
6521 \def\item{%
6522   \@hyper@itemfalse
6523   \if@nmbrlist\@hyper@itemtrue\fi
6524   \H@item
6525 }

6526 \newcommand\theHenumi    {\theHItem}
6527 \newcommand\theHenumii   {\theHItem}
6528 \newcommand\theHenumiii  {\theHItem}
6529 \newcommand\theHenumiv   {\theHItem}
6530 \newcommand\theHHfootnote {\arabic{Hfootnote}}
6531 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
6532 \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.

```

6533 \let\H@refstepcounter\refstepcounter
6534 \edef\name@of@eq{equation}%
6535 \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.

```

6536 \newif\if@hyper@item
6537 \newif\if@skiphyperref
6538 \@hyper@itemfalse
6539 \@skiphyperreffalse
6540 \def\refstepcounter#1{%
6541   \ifHy@pdfstring
6542   \else
6543     \H@refstepcounter{#1}%
6544     \edef\This@name{#1}%
6545     \ifx\This@name\name@of@slide
6546     \else
6547       \if@skiphyperref
6548       \else
6549         \if@hyper@item
6550           \stepcounter{Item}%
6551           \hyper@refstepcounter{Item}%
6552           \@hyper@itemfalse
6553         \else
6554           \hyper@refstepcounter{#1}%
6555         \fi
6556       \fi
6557     \fi
6558   \fi
6559 }
6560 \let\Hy@saved@refstepcounter\refstepcounter

```

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

```
6561 \ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
6562 \def\hyper@refstepcounter#1{%
6563   \edef\This@name{#1}%
6564   \ifx\This@name\name@of@eq
6565     \ifundefined{theHequation}{%
6566       \make@stripped@name{\theequation}%
6567       \let\theHequation\newname
6568     }{}%
6569   \fi
6570   \ifundefined{theH#1}{%
6571     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6572   }{}%
6573   \hyper@makecurrent{#1}%
6574   \ifmeasuring@
6575   \else
6576     \Hy@raisedlink{%
6577       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6578     }%
6579   \fi
6580 }
```

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`.

```
6581 \begingroup\expandafter\expandafter\expandafter\endgroup
6582 \expandafter\ifx\csname chapter\endcsname\relax
6583   \def\Hy@chapterstring{section}%
6584 \else
6585   \def\Hy@chapterstring{chapter}%
6586 \fi
6587 \def\Hy@appendixstring{appendix}
6588 \def\Hy@chapapp{\Hy@chapterstring}
6589 \ltx@ifundefined{appendix}{%
6590 }{%
6591   \let\HyOrg@appendix\appendix
6592   \def\appendix{%
6593     \ltx@ifundefined{chapter}%
6594     {\gdef\theHsection{\Alph{section}}}%
6595     {\gdef\theHchapter{\Alph{chapter}}}%
6596     \xdef\Hy@chapapp{\Hy@appendixstring}%
6597     \HyOrg@appendix
6598   }%
6599 }
```

`\Hy@Test@alph`

```
6600 \def\Hy@Test@alph#1{%
6601   \ifcase#1\or
6602     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6603     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
```

```

6604   u\or v\or w\or x\or y\or z%
6605   \else
6606   \@ctrerr
6607   \fi
6608 }

```

\Hy@Test@Alph

```

6609 \def\Hy@Test@Alph#1{%
6610   \ifcase#1\or
6611   A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6612   K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6613   U\or V\or W\or X\or Y\or Z%
6614   \else
6615   \@ctrerr
6616   \fi
6617 }

```

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

```

6618 \def\hyper@makecurrent#1{%
6619   \begingroup
6620   \edef\Hy@param{#1}%
6621   \ifx\Hy@param\Hy@chapterstring
6622     \let\Hy@param\Hy@chapapp
6623   \fi
6624   \ifHy@hypertextnames
6625     \let\@number\@firstofone
6626     \def\@fnsymbol##1{\fnsymbol\number##1}%
6627     \def\@arabic##1{\number##1}%
6628     \ifx\@alph\Hy@Test@alph
6629       \else
6630       \def\@alph{alph\number}%
6631     \fi
6632     \ifx\@Alph\Hy@Test@Alph
6633     \else
6634     \def\@Alph{Alph\number}%
6635     \fi
6636     \ifHy@naturalnames
6637     \let\textlatin\@firstofone
6638     \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6639   \else
6640     \xdef\HyperGlobalCurrentHref{%
6641       \csname
6642         the%
6643         \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6644         #1%
6645       \endcsname
6646     }%
6647   \fi
6648   \xdef\HyperGlobalCurrentHref{%
6649     \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6650   }%
6651   \else
6652     \Hy@GlobalStepCount\Hy@linkcounter
6653     \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
6654   \fi
6655   \endgroup

```

```

6656 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6657 \ifHy@localanchorname
6658   \let\@currentHref\HyperLocalCurrentHref
6659 \else
6660   \global\let\@currentHref\HyperGlobalCurrentHref
6661 \fi
6662 }

```

\Hy@MakeCurrentHref

```

6663 \def\Hy@MakeCurrentHref#1{%
6664   \edef\HyperLocalCurrentHref{#1}%
6665   \@onelevel@sanitize\HyperLocalCurrentHref
6666   \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6667   \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6668   \ifHy@localanchorname
6669     \let\@currentHref\HyperLocalCurrentHref
6670   \else
6671     \global\let\@currentHref\HyperGlobalCurrentHref
6672   \fi
6673 }

```

\Hy@MakeCurrentHrefAuto

```

6674 \def\Hy@MakeCurrentHrefAuto#1{%
6675   \Hy@GlobalStepCount\Hy@linkcounter
6676   \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6677 }

```

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

```

6678 \def\@currentHlabel{\@currentHref}

6679 \@ifpackageloaded{fancyvrb}{%
6680   \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
6681     \def\FV@StepLineNo{%
6682       \FV@SetLineNo
6683       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6684       \FV@SetLineNo
6685     }%
6686   }%
6687 }{}

```

## 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

```

6688 \Hy@AtBeginDocument{%
6689   \@ifclassloaded{revtex4}{%
6690     \@namedef{ver@lastpage.sty}{1994/06/25}%
6691   }{}%

```

```

6692 \@ifpackageloaded{lastpage}{%
6693   \ifHy@pageanchor
6694   \else
6695     \Hy@WarningNoLine{%
6696       The \string\pageref{LastPage} link doesn't work\MessageBreak
6697       with disabled option 'pageanchor'%
6698     }%
6699   \fi
6700 \def\lastpage@putlabel{%
6701   \addtocounter{page}{-1}%
6702   \if@filesw
6703     \begingroup
6704       \let\@number\@firstofone
6705       \ifHy@pageanchor
6706         \ifHy@hypertextnames
6707           \ifHy@plainpages
6708             \def\Hy@temp{\arabic{page}}%
6709           \else
6710             \Hy@unicodefalse
6711             \pdfstringdef\Hy@temp{\thepage}%
6712           \fi
6713         \else
6714           \def\Hy@temp{\the\Hy@pagecounter}%
6715         \fi
6716       \fi
6717       \immediate\write\@auxout{%
6718         \string\newlabel
6719         {LastPage}{{}{\thepage}}{%
6720           \ifHy@pageanchor page.\Hy@temp\fi}}}%
6721     }%
6722   \endgroup
6723   \fi
6724   \addtocounter{page}{1}%
6725 }%
6726 \@ifclassloaded{revtex4}{%
6727   \begingroup
6728     \toks@\expandafter{\lastpage@putlabel}%
6729     \edef\x{\endgroup
6730       \def\noexpand\lastpage@putlabel{%
6731         \noexpand\stepcounter{page}%
6732         \the\toks@
6733         \noexpand\addtocounter{page}\noexpand\m@ne
6734       }%
6735     }%
6736     \x
6737   }{}%
6738 }{}%
6739 }
6740 \</package>
6741 \<*check>
6742 \checkpackage{lastpage}[1994/06/25]
6743 \checkcommand\def\lastpage@putlabel{%
6744   \addtocounter{page}{-1}%
6745   \immediate\write\@auxout{%
6746     \string\newlabel{LastPage}{{}{\thepage}}%
6747   }%
6748   \addtocounter{page}{1}%

```

```

6749 }
6750 </check>
6751 <*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.

```

6752 \def\hypergetref#1{\getrefbykeydefault{#1}{-}{??}}
6753 \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:

```

6754 \@ifpackageloaded{titlesec}{%
6755   \def\ttl@Hy@steplink#1{%
6756     \Hy@MakeCurrentHrefAuto{#1*}%
6757   \edef\ttl@Hy@saveanchor{%
6758     \noexpand\Hy@raisedlink{%
6759       \noexpand\hyper@anchorstart{\@currentHref}%
6760       \noexpand\hyper@anchorend
6761     \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6762     \noexpand\ttl@Hy@PatchSaveWrite
6763   }%
6764   }%
6765 }%
6766 \def\ttl@Hy@PatchSaveWrite{%
6767   \begingroup
6768   \toks@\expandafter{\ttl@savewrite}%
6769   \edef\x{\endgroup
6770     \def\noexpand\ttl@savewrite{%
6771       \let\noexpand\@currentHref
6772       \noexpand\ttl@Hy@SavedCurrentHref
6773     \the\toks@
6774   }%
6775   }%
6776   \x
6777 }%
6778 \def\ttl@Hy@refstepcounter#1{%
6779   \let\ttl@b\Hy@raisedlink
6780   \def\Hy@raisedlink##1{%
6781     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
6782   }%
6783   \refstepcounter{#1}%
6784   \let\Hy@raisedlink\ttl@b
6785 }%
6786 }{}

```

Package titletoc support:

```

6787 \@ifpackageloaded{titletoc}{%
6788   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
6789 }{}

```

## 32 Package varioref support

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

```

6790 \def\Hy@varioref@undefined{{??}{??}{}}{}{}
6791 \@ifpackageloaded{varioref}{%
6792   \def\vref@pagenum#1#2{%
6793     \@ifundefined{r@#2}{%
6794       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
6795     }{}%
6796     \edef#1{\getpagerefnumber{#2}}%
6797   }%
6798 }{}

```

Package varioref redefines \refstepcounter, thus it needs fixing, if the package is loaded *after* hyperref.

```

6799 \def\Hy@varioref@refstepcounter#1{%
6800   \stepcounter{#1}%
6801   \protected@edef\@currentlabel{%
6802     \csname p@#1\expandafter\endcsname\csname the#1\endcsname
6803   }%
6804 }
6805 \AtBeginDocument{%
6806   \ifx\refstepcounter\Hy@varioref@refstepcounter
6807     \let\H@refstepcounter\refstepcounter
6808     \let\refstepcounter\Hy@saved@refstepcounter
6809   \fi
6810 }

```

## 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

```

6811 \@ifpackageloaded{longtable}{%
6812   \begingroup
6813     \def\y{\LT@array}%
6814     \@ifundefined{scr@LT@array}{%
6815       \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
6816     }{\def\y{\scr@LT@array}}%
6817     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
6818       \expandafter\endgroup
6819       \expandafter\def\y[##1]##2{%
6820         \H@refstepcounter{#1}%
6821         \hyper@makecurrent{table}%
6822         \let\Hy@LT@currentHref\@currentHref
6823         #2\@sharp###3###4%
6824       }%
6825     }%
6826     \expandafter\expandafter\expandafter\x\y{##1}{##2}\@nil

```

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

```

6827   \begingroup
6828     \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%

```

```

6829 \endgroup
6830 \def\LT@start{%
6831   #1%
6832   \ifvoid\LT@foot#2\fi
6833   \let\@currentHref\Hy@LT@currentHref
6834   \Hy@raisedlink{%
6835     \hyper@anchorstart{\@currentHref}\hyper@anchorend
6836   }%
6837   #3%
6838 }%
6839 }%
6840 \expandafter\x\LT@start\@nil
6841 }{}

```

## 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.

```

6842 \let\new@refstepcounter\refstepcounter
6843 \let\H@equation\equation
6844 \let\H@endequation\endequation

6845 \ifpackageloaded{amsmath}{%
6846   \long\def\Hy@temp{%
6847     \incr@eqnum
6848     \mathdisplay@push
6849     \st@rredfalse \global\@eqnswtrue
6850     \mathdisplay{equation}%
6851   }%
6852   \ifx\Hy@temp\equation
6853     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6854       \csname iftrue\endcsname
6855   \else
6856     \long\def\equation{%
6857       \mathdisplay@push
6858       \st@rredfalse \global\@eqnswtrue
6859       \mathdisplay{equation}%
6860       \incr@eqnum
6861     }%
6862   \fi
6863 \fi
6864 }{}%
6865 \def\equation{%
6866   \let\refstepcounter\H@refstepcounter
6867   \H@equation
6868   \@ifundefined{theHequation}{%
6869     \make@stripped@name{\theequation}%
6870     \let\theHequation\newname
6871   }{}%
6872   \hyper@makecurrent{equation}%
6873   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
6874   \let\refstepcounter\new@refstepcounter
6875 }%

```

```

6876 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6877 }

```

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.

```

6878 \newif\if@eqnstar
6879 \@eqnstarfalse
6880 \let\H@eqnarray\eqnarray
6881 \let\H@endeqnarray\endeqnarray
6882 \def\eqnarray{%
6883   \let\Hy@reserved@a\relax
6884   \def\@currentHref{}%
6885   \H@eqnarray
6886   \if@eqnstar
6887   \else
6888     \ifx\\ \@currentHref\\%
6889     \else
6890       \@ifundefined{theHequation}{%
6891         \make@stripped@name{\theequation}%
6892         \let\theHequation\newname
6893       }{}%
6894       \hyper@makecurrent{equation}%
6895       \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
6896     \fi
6897   \fi
6898 }
6899 \def\endeqnarray{%
6900   \H@endeqnarray
6901 }

```

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.

```

6902 \@namedef{eqnarray*}{%
6903   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
6904 }
6905 \@namedef{endeqnarray*}{%
6906   \nonumber\endeqnarray\@eqnstarfalse
6907 }

```

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

```

6908 \ltx@ifundefined{subeqnarray}{}{%
6909   \let\H@subeqnarray\subeqnarray
6910   \let\H@endsubeqnarray\endsubeqnarray
6911   \def\subeqnarray{%
6912     \let\Hy@reserved@a\relax
6913     \H@subeqnarray
6914     \@ifundefined{theHequation}{%
6915       \make@stripped@name{\theequation}%
6916       \let\theHequation\newname
6917     }{}%
6918     \hyper@makecurrent{equation}%
6919     \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
6920   }%
6921   \def\endsubeqnarray{%
6922     \H@endsubeqnarray

```

```

6923 }%
6924 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
6925 }

```

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

```

6926 \def\make@stripped@name#1{%
6927   \begingroup
6928   \escapechar\m@ne
6929   \global\let\newname\@empty
6930   \protected@edef\Hy@tempa{#1}%
6931   \edef\@tempb{%
6932     \noexpand\@tfor\noexpand\Hy@tempa:=%
6933     \expandafter\strip@prefix\meaning\Hy@tempa
6934   }%
6935   \@tempb\do{%
6936     \if{\Hy@tempa\else
6937       \if}\Hy@tempa\else
6938       \xdef\newname{\newname\Hy@tempa}%
6939     \fi
6940   }%
6941 }%
6942 \endgroup
6943 }

```

Support for amsmath's subequations:

```

6944 \begingroup\expandafter\expandafter\expandafter\endgroup
6945 \expandafter\ifx\csname subequations\endcsname\relax
6946 \else
6947   \let\HyOrg@subequations\subequations
6948   \def\subequations{%
6949     \stepcounter{equation}%
6950     \protected@edef\theHparentequation{%
6951       \ifundefined{theHequation}\theequation\theHequation
6952     }%
6953     \addtocounter{equation}{-1}%
6954     \HyOrg@subequations
6955     \def\theHequation{\theHparentequation\alph{equation}}%
6956     \ignorespaces
6957   }%
6958 \fi

```

Support for package amsthm (Daniel Müllner):

```

6959 \ifpackageloaded{amsthm}{%

```

Class amsbook uses a different definition of \@thm, where two lines are added (thanks to Dan Luecking for his analysis):

```

\let\thm@indent\indent % indent
\thm@headfont{\scshape}% heading font small caps

6960 \def\Hy@temp#1#2#3{%
6961   \ifhmode\unskip\unskip\par\fi
6962   \normalfont
6963   \trivlist
6964   \let\thmheadnl\relax
6965   \let\thm@swap\@gobble
6966   \let\thm@indent\indent % indent
6967   \thm@headfont{\scshape}% heading font small caps
6968   \thm@notefont{\fontseries\mddefault\upshape}%

```

```

6969 \thm@headpunct{.}% add period after heading
6970 \thm@headsep 5\p@ plus\p@ minus\p@\relax
6971 \thm@space@setup
6972 #1% style overrides
6973 \@topsep \thm@preskip % used by thm head
6974 \@topsepadd \thm@postskip % used by \@endparenv
6975 \def\@tempa{#2}\ifx\@empty\@tempa
6976 \def\@tempa{\@oparg{\@begintheorem{#3}{}}}%
6977 \else
6978 \refstepcounter{#2}%
6979 \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
6980 \fi
6981 \@tempa
6982 }%
6983 \ifx\Hy@temp\@thm
6984 \def\@thm#1#2#3{%
6985 \ifhmode
6986 \unskip\unskip\par
6987 \fi
6988 \normalfont
6989 \trivlist
6990 \let\thmheadnl\relax
6991 \let\thm@swap\@gobble
6992 \let\thm@indent\indent % indent
6993 \thm@headfont{\scshape}% heading font small caps
6994 \thm@notefont{\fontseries\mddefault\upshape}%
6995 \thm@headpunct{.}% add period after heading
6996 \thm@headsep 5\p@ plus\p@ minus\p@\relax
6997 \thm@space@setup
6998 #1% style overrides
6999 \@topsep \thm@preskip % used by thm head
7000 \@topsepadd \thm@postskip % used by \@endparenv
7001 \def\@dth@counter{#2}%
7002 \ifx\@empty\@dth@counter
7003 \def\@tempa{%
7004 \@oparg{\@begintheorem{#3}{}}}%
7005 }%
7006 \else
7007 \H@refstepcounter{#2}%
7008 \hyper@makecurrent{#2}%
7009 \let\Hy@dth@currentHref\@currentHref
7010 \def\@tempa{%
7011 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7012 }%
7013 \fi
7014 \@tempa
7015 }%
7016 \else
7017 \def\@thm#1#2#3{%
7018 \ifhmode
7019 \unskip\unskip\par
7020 \fi
7021 \normalfont
7022 \trivlist
7023 \let\thmheadnl\relax
7024 \let\thm@swap\@gobble
7025 \thm@notefont{\fontseries\mddefault\upshape}%

```

```

7026 \thm@headpunct{.}% add period after heading
7027 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7028 \thm@space@setup
7029 #1% style overrides
7030 \@topsep \thm@preskip % used by thm head
7031 \@topsepadd \thm@postskip % used by \@endpary
7032 \def\dth@counter{#2}%
7033 \ifx\@empty\dth@counter
7034 \def\@tempa{%
7035 \oparg{\@begintheorem{#3}{}}}%
7036 }%
7037 \else
7038 \H@refstepcounter{#2}%
7039 \hyper@makecurrent{#2}%
7040 \let\Hy@dth@currentHref\@currentHref
7041 \def\@tempa{%
7042 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7043 }%
7044 \fi
7045 \@tempa
7046 }%
7047 \fi
7048 \dth@everypar={%
7049 \@minipagefalse
7050 \global\@newlistfalse
7051 \noparitemfalse
7052 \if@inlabel
7053 \global\@inlabelfalse
7054 \begingroup
7055 \setbox\z@\lastbox
7056 \ifvoid\z@
7057 \kern-\itemindent
7058 \fi
7059 \endgroup
7060 \ifx\@empty\dth@counter
7061 \else
7062 \Hy@raisedlink{%
7063 \hyper@anchorstart{%
7064 \ltx@ifundefined{Hy@dth@currentHref}%
7065 \@currentHref\Hy@dth@currentHref
7066 }\hyper@anchorend
7067 }%
7068 \fi
7069 \unhbox\@labels
7070 \fi
7071 \if@nobreak
7072 \clubpenaltyfalse \clubpenalty\@M
7073 \else
7074 \clubpenalty\clubpenalty \everypar{}%
7075 \fi
7076 }%
7077 }{}

```

## 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.

```

7078 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
7079 \ifHy@hyperfootnotes
7080   \newcounter{Hfootnote}%
7081   \let\H@@footnotetext\@footnotetext
7082   \let\H@@footnotemark\@footnotemark
7083   \def\xfootnotenext[#1]{%
7084     \begingroup
7085       \csname c@\@mpfn\endcsname #1\relax
7086       \unrestored@protected@xdef\@thefnmark{\thempfn}%
7087     \endgroup
7088     \ifx\@footnotetext\@mpfootnotetext
7089       \expandafter\H@@mpfootnotetext
7090     \else
7091       \expandafter\H@@footnotetext
7092     \fi
7093   }%
7094   \def\@xfootnotemark[#1]{%
7095     \begingroup
7096       \c@footnote #1\relax
7097       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7098     \endgroup
7099     \H@@footnotemark
7100   }%
7101   \let\H@@mpfootnotetext\@mpfootnotetext
7102   \long\def\@mpfootnotetext#1{%
7103     \H@@mpfootnotetext{%
7104       \ifHy@nesting
7105         \expandafter\hyper@@anchor\expandafter{%
7106           \Hy@footnote@currentHref
7107         }{#1}%
7108       \else
7109         \Hy@raisedlink{%
7110           \expandafter\hyper@@anchor\expandafter{%
7111             \Hy@footnote@currentHref
7112           }{\relax}%
7113         }#1%
7114       \fi
7115     }%
7116   }%
7117   \long\def\@footnotetext#1{%
7118     \H@@footnotetext{%
7119       \ifHy@nesting
7120         \expandafter\hyper@@anchor\expandafter{%
7121           \Hy@footnote@currentHref
7122         }{#1}%
7123       \else
7124         \Hy@raisedlink{%
7125           \expandafter\hyper@@anchor\expandafter{%
7126             \Hy@footnote@currentHref
7127           }{\relax}%

```

```

7128    }%
7129    \let\@currentHref\Hy@footnote@currentHref
7130    \let\@currentlabelname\@empty
7131    #1%
7132    \fi
7133  }%
7134 }%

```

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.

```

7135 \def\@footnotemark{%
7136   \leavevmode
7137   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7138   \stepcounter{Hfootnote}%
7139   \global\let\Hy@saved@currentHref\@currentHref
7140   \hyper@makecurrent{Hfootnote}%
7141   \global\let\Hy@footnote@currentHref\@currentHref
7142   \global\let\@currentHref\Hy@saved@currentHref
7143   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7144   \@makefnmark
7145   \hyper@linkend
7146   \ifhmode\spacefactor\@x@sf\fi
7147   \relax
7148 }%

```

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

```

7149 \@ifpackageloaded{longtable}{%
7150   \CheckCommand*\LT@p@ftntext}[1]{%
7151     \edef\@tempa{%
7152       \the\LT@p@ftn
7153       \noexpand\footnotetext[\the\c@footnote]%
7154     }%
7155     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7156   }%
7157   \long\def\LT@p@ftntext#1{%
7158     \edef\@tempa{%
7159       \the\LT@p@ftn
7160       \begingroup
7161       \noexpand\c@footnote=\the\c@footnote\relax
7162       \noexpand\protected@xdef\noexpand\@thefnmark{%
7163         \noexpand\thempfn
7164       }%
7165       \noexpand\Hy@LT@footnotetext{%
7166         \Hy@footnote@currentHref
7167       }%
7168     }%
7169     \global\LT@p@ftn\expandafter{%
7170       \@tempa{#1}%
7171     }%
7172   }%
7173 }%
7174 \long\def\Hy@LT@footnotetext#1#2{%
7175   \H@@@footnotetext{%

```

```

7176 \ifHy@nesting
7177 \hyper@@anchor{#1}{#2}%
7178 \else
7179 \Hy@raisedlink{%
7180 \hyper@@anchor{#1}{\relax}%
7181 }%
7182 \def\@currentHref{#1}%
7183 \let\@currentlabelname\@empty
7184 #2%
7185 \fi
7186 }%
7187 }%
7188 }{}%

```

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

```

7189 \@ifpackageloaded{fancyvrb}{%
7190 \def\V@@footnotetext{%
7191 \insert\footins\bgroup
7192 \csname reset@font\endcsname
7193 \footnotesize
7194 \interlinepenalty\interfootnotelinepenalty
7195 \splittopskip\footnotesep
7196 \splitmaxdepth\dp\strutbox
7197 \floatingpenalty \@MM
7198 \hsize\columnwidth
7199 \@parboxrestore
7200 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7201 \@makefnmark{}%
7202 \rule{\z@}{\footnotesep}%
7203 \bgroup
7204 \aftergroup\V@@@footnotetext
7205 \Hy@raisedlink{%
7206 \expandafter\hyper@@anchor\expandafter{%
7207 \Hy@footnote@currentHref
7208 }{\relax}%
7209 }%
7210 \let\@currentHref\Hy@footnote@currentHref
7211 \let\@currentlabelname\@empty
7212 \ignorespaces
7213 }%
7214 }{}%

```

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

```

7215 \def\Hy@temp#1{%
7216 \begingroup
7217 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7218 \endgroup
7219 \@footnotemark
7220 }%
7221 \ifx\Hy@temp\footref
7222 \def\footref#1{%
7223 \begingroup
7224 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7225 \endgroup
7226 \H@@@footnotemark
7227 }%
7228 \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.

```

7229 \let\HyOrg@maketitle\maketitle
7230 \def\maketitle{%
7231   \let\Hy@saved@footnotemark\@footnotemark
7232   \let\Hy@saved@footnotetext\@footnotetext
7233   \let\@footnotemark\H@@footnotemark
7234   \let\@footnotetext\H@@footnotetext
7235   \ifnextchar[\Hy@maketitle@optarg{% ]
7236     \HyOrg@maketitle
7237     \Hy@maketitle@end
7238   }%
7239 }%
7240 \def\Hy@maketitle@optarg[#1]{%
7241   \HyOrg@maketitle[#1]%
7242   \Hy@maketitle@end
7243 }%
7244 \def\Hy@maketitle@end{%
7245   \ifx\@footnotemark\H@@footnotemark
7246     \let\@footnotemark\Hy@saved@footnotemark
7247   \fi
7248   \ifx\@footnotetext\H@@footnotetext
7249     \let\@footnotetext\Hy@saved@footnotetext
7250   \fi
7251 }%
```

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

```

7252 \def\realfootnote{%
7253   \ifnextchar[\@xfootnote{%
7254     \stepcounter{\@mpfn}%
7255     \protected@xdef\thefnmark{\thempfn}%
7256     \H@@footnotemark\H@@footnotetext
7257   }%
7258 }%

7259 \fi
7260 \Hy@DisableOption{hyperfootnotes}

7261 </package>
7262 <*check>
7263 \checklatex
7264 \checkcommand\def\@xfootnotenext[#1]{%
7265   \begingroup
7266     \csname c@\@mpfn\endcsname #1\relax
7267     \unrestored@protected@xdef\thefnmark{\thempfn}%
7268   \endgroup
7269   \@footnotetext
7270 }
7271 \checkcommand\def\@xfootnotemark[#1]{%
7272   \begingroup
7273     \c@footnote #1\relax
7274     \unrestored@protected@xdef\thefnmark{\thefootnote}%
7275   \endgroup
7276   \@footnotemark
7277 }
7278 \checkcommand\def\@footnotemark{%
7279   \leavevmode
7280   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
```

```

7281 \@makefnmark
7282 \ifhmode\spacefactor\@x@sf\fi
7283 \relax
7284 }
7285 </check>
7286 <*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.

```

7287 \def\caption{%
7288   \ifx\@captype\@undefined
7289     \@latex@error{\noexpand\caption outside float}\@ehd
7290     \expandafter\@gobble
7291   \else
7292     \H@refstepcounter\@captype
7293     \let\Hy@tempa\@caption
7294     \@ifundefined{float@caption}{%
7295       {%
7296         \expandafter\ifx\csname @float@c@\@captype\endcsname
7297           \float@caption
7298         \let\Hy@tempa\Hy@float@caption
7299       \fi
7300     }%
7301     \expandafter\@firstofone
7302   \fi
7303   {\@dblarg{\Hy@tempa\@captype}}}%
7304 }
7305 \long\def\@caption#1[#2]#3{%
7306   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7307     \csname iftrue\endcsname
7308     \global\let\@currentHref\hc@currentHref
7309   \else
7310     \hyper@makecurrent{\@captype}%
7311   \fi
7312   \@ifundefined{NR@gettitle}{%
7313     \def\@currentlabelname{#2}%
7314   }{%
7315     \NR@gettitle{#2}%
7316   }%
7317   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7318     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7319   }%
7320   \begingroup
7321     \@parboxrestore
7322     \if@minipage
7323       \@setminipage
7324     \fi
7325     \normalsize
7326     \expandafter\ifx\csname if@capstart\expandafter\endcsname
7327       \csname iftrue\endcsname
7328       \global\@capstartfalse
7329       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7330     \else
7331       \@makecaption{\csname fnum@#1\endcsname}{%

```

```
7332 \ignorespaces
```

If we cannot have nesting, the anchor is empty.

```
7333 \ifHy@nesting
7334 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7335 \else
7336 \Hy@raisedlink{%
7337 \expandafter\hyper@@anchor\expandafter{%
7338 \@currentHref
7339 }{\relax}%
7340 }%
7341 #3%
7342 \fi
7343 }%
7344 \fi
7345 \par
7346 \endgroup
7347 }
```

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.

```
7348 \let\Hy@float@caption\@caption
7349 \ifpackageloaded{float}{%
7350 \def\Hy@float@caption{%
7351 \ifx\Hy@float@currentHref\@undefined
7352 \hyper@makecurrent{\@cuptype}%
7353 \global\let\Hy@float@currentHref\@currentHref
7354 \else
7355 \let\@currentHref\Hy@float@currentHref
7356 \fi
7357 \float@caption
7358 }%
7359 \let\HyOrg@float@makebox\float@makebox
7360 \renewcommand{\float@makebox}[1]{%
7361 \HyOrg@float@makebox{%
7362 #1\relax
7363 \ifx\Hy@float@currentHref\@undefined
7364 \else
7365 \expandafter\hyper@@anchor\expandafter{%
7366 \Hy@float@currentHref
7367 }{\relax}%
7368 \global\let\Hy@float@currentHref\@undefined
7369 \fi
7370 }%
7371 }%
7372 }-{}
7373 </package>
7374 <*check>
7375 \checklatex[1999/06/01 - 2000/06/01]
7376 \checkcommand\def\caption{%
7377 \ifx\@cuptype\@undefined
7378 \@latex@error{\noexpand\caption outside float}\@ehd
7379 \expandafter\@gobble
7380 \else
7381 \refstepcounter\@cuptype
7382 \expandafter\@firstofone
7383 \fi
7384 {\@dblarg{\@caption\@cuptype}}}%
```

```

7385 }
7386 \checkcommand\long\def\@caption#1[#2]#3{%
7387   \par
7388   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7389     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7390   }%
7391   \begingroup
7392   \@parboxrestore
7393   \if@minipage
7394     \setminipage
7395   \fi
7396   \normalsize
7397   \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7398 \endgroup
7399 }
7400 \</check>
7401 \<*package>

```

## 37 Bibliographic references

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

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

```

7402 \def\hyper@natlinkstart#1{%
7403   \Hy@backout{#1}%
7404   \hyper@linkstart{cite}{cite.#1}%
7405   \def\hyper@nat@current{#1}%
7406 }
7407 \def\hyper@natlinkend{%
7408   \hyper@linkend
7409 }
7410 \def\hyper@natlinkbreak#1#2{%
7411   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7412 }
7413 \def\hyper@natanchorstart#1{%
7414   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7415 }
7416 \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.

```

7417 \ltx@ifundefined{NAT@parse}{%
7418   \providecommand*\@extra@binfo{}%
7419   \providecommand*\@extra@b@citeb{}%
7420   \def\bibcite#1#2{%
7421     \@newl@bel{b}{#1\@extra@binfo}{%
7422       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7423     }%
7424   }%

```

```
7425 \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.”.

```
7426 \let\Hy@bibcite\bibcite
7427 \begingroup
7428 \ifundefined{bbl@cite@choice}{}%
7429 \g@addto@macro\bbl@cite@choice{%
7430 \let\bibcite\Hy@bibcite
7431 }%
7432 }%
7433 \endgroup
```

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

```
7434 \providecommand*{\@BIBLABEL}{\@biblabel}%
7435 \def\@bibitem[#1]#2{%
7436 \@skiphyperreftrue
7437 \H@item[%
7438 \ifx\Hy@raisedlink\@empty
7439 \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7440 \@BIBLABEL{#1}%
7441 \hyper@anchorend
7442 \else
7443 \Hy@raisedlink{%
7444 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7445 }%
7446 \@BIBLABEL{#1}%
7447 \fi
7448 \hfill
7449 ]%
7450 \@skiphyperreffalse
7451 \if@filesw
7452 \begingroup
7453 \let\protect\noexpand
7454 \immediate\write\@auxout{%
7455 \string\bibcite{#2}{#1}%
7456 }%
7457 \endgroup
7458 \fi
7459 \ignorespaces
7460 }%
```

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

```
7461 \def\@bibitem#1{%
7462 \@skiphyperreftrue\H@item\@skiphyperreffalse
7463 \Hy@raisedlink{%
7464 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7465 }%
7466 \if@filesw
7467 \begingroup
7468 \let\protect\noexpand
7469 \immediate\write\@auxout{%
7470 \string\bibcite{#1}{\the\value{\@listctr}}}%
7471 }%
7472 \endgroup
7473 \fi
7474 \ignorespaces
7475 }%
```

```

7476 }{}
7477 </package>
7478 <*check>
7479 \checklatex
7480 \checkcommand\def\@bibitem[#1]#2{%
7481   \item[\@biblabel{#1}\hfill]%
7482   \if@filesw
7483     {%
7484       \let\protect\noexpand
7485       \immediate\write\@auxout{%
7486         \string\bibcite{#2}{#1}%
7487       }%
7488     }%
7489   \fi
7490   \ignorespaces
7491 }
7492 \checkcommand\def\@bibitem#1{%
7493   \item
7494   \if@filesw
7495     \immediate\write\@auxout{%
7496       \string\bibcite{#1}{\the\value{\@listctr}}%
7497     }%
7498   \fi
7499   \ignorespaces
7500 }
7501 </check>
7502 <*package>

```

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

```

7503 \@ifclassloaded{revtex}{%
7504   \Hy@Info{*** compatibility with revtex **** }%
7505   \def\revtex@checking#1#2{%
7506     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
7507     \expandafter\def\csname b@#1\endcsname{#2}%
7508     \@SetMaxRnhefLabel{#1}%
7509     \expandafter\let\csname b@#1\endcsname\T@temp
7510   }%

```

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

```

7511 \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
7512 \providecommand*{\@extra@b@citeb}{}%
7513 \def\CITE[#1]#2{%
7514   \let\@citea\@empty
7515   \leavevmode
7516   \unskip
7517   $^{}%
7518   \scriptstyle
7519   \CITE{%
7520     \@for\@citeb:=#2\do{%
7521       \@citea
7522       \def\@citea{,\penalty\@m\ }%
7523       \edef\@citeb{\expandafter\@firstofone\@citeb}%
7524       \if@filesw
7525         \immediate\write\@auxout{\string\citation{\@citeb}}%

```

```

7526 \fi
7527 \@ifundefined{b@\@citeb\extra@b@citeb}{%
7528 \mbox{\reset@font\bfseries ?}%
7529 \G@refundefinedtrue
7530 \@latex@warning{%
7531 Citation ‘\@citeb’ on page \thepage \space undefined%
7532 }%
7533 }{%
7534 {\csname b@\@citeb\@extra@b@citeb\endcsname}%
7535 }%
7536 }%
7537 }{#1}%
7538 }$%
7539 }%

```

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

```

7540 \def\@citex[#1]#2{%
7541 \let\@citea\@empty
7542 \@cite{%
7543 \@for\@citeb:=#2\do{%
7544 \@citea
7545 \def\@citea{,\penalty\@m\ }%
7546 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7547 \if@filesw
7548 \immediate\write\@auxout{\string\citation{\@citeb}}%
7549 \fi
7550 \@ifundefined{b@\@citeb\@extra@b@citeb}{%
7551 \mbox{\reset@font\bfseries ?}%
7552 \G@refundefinedtrue
7553 \@latex@warning{%
7554 Citation ‘\@citeb’ on page \thepage \space undefined%
7555 }%
7556 }{%
7557 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7558 }%
7559 }%
7560 }{#1}%
7561 }%
7562 }{}

```

### 37.1 Package harvard

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

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

```

7563 \@ifpackageloaded{harvard}{%
7564 \Hy@AtBeginDocument{%
7565 \Hy@Info{*** compatibility with harvard **** }%
7566 \Hy@raiselinksfalse
7567 \def\harvardcite#1#2#3#4{%
7568 \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
7569 \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
7570 \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%

```

```

7571 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7572 }%
7573 \def\HAR@citetoaux#1{%
7574 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7575 \ifHy@backref
7576 \ifx\@empty\@currentlabel
7577 \else
7578 \@bsphack
7579 \if@filesw
7580 \protected@write\@auxout{}{%
7581 \string\@writefile{brf}{%
7582 \string\backcite{#1}{%
7583 {\thepage}{\@currentlabel}{\@currentHref}%
7584 }%
7585 }%
7586 }%
7587 \fi
7588 \@esphack
7589 \fi
7590 \fi
7591 }%
7592 \def\harvarditem{%
7593 \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7594 }%
7595 \def\@harvarditem[#1]#2#3#4#5\par{%
7596 \item[]%
7597 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7598 \if@filesw
7599 \begingroup
7600 \def\protect##1{\string ##1\space}%
7601 \ifthenelse{\equal{#1}{\null}}{%
7602 {\def\next{{#4}{#2}{#2}{#3}}}%
7603 {\def\next{{#4}{#2}{#1}{#3}}}%
7604 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7605 \endgroup
7606 \fi
7607 \protect\hspace*{-\labelwidth}%
7608 \protect\hspace*{-\labelsep}%
7609 \ignorespaces
7610 #5%
7611 \ifHy@backref
7612 \newblock
7613 \backref{\csname br@#4\endcsname}%
7614 \fi
7615 \par
7616 }%

```

\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:

```

7617 \long\def\HAR@checkcitations#1#2#3#4{%
7618 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
7619 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7620 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
7621 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7622 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
7623 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa

```

```

7624     \else
7625     \@tempswatrue
7626     \fi
7627     \else
7628     \@tempswatrue
7629     \fi
7630     \else
7631     \@tempswatrue
7632     \fi
7633 }%
7634 }%

7635 }{}

```

## 37.2 Package chicago

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

```

7636 \@ifpackageloaded{chicago}{%

```

\citeN

```

7637 \def\citeN{%
7638 \def\@citesep{-1000}%
7639 \def\@cite##1##2{##1}%
7640 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7641 \@citedata@opt
7642 }%

```

\shortciteN

```

7643 \def\shortciteN{%
7644 \def\@citesep{-1000}%
7645 \def\@cite##1##2{##1}%
7646 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7647 \@citedata@opt
7648 }%

```

\@citedata@opt

```

7649 \def\@citedata@opt{%
7650 \let\@cite@opt\@empty
7651 \ifnextchar [{%
7652 \@tempswatrue
7653 \@citedatax@opt
7654 }{%
7655 \@tempswafalse
7656 \@citedatax[]%
7657 }%
7658 }%

```

\@citedatax@opt

```

7659 \def\@citedatax@opt[#1]{%
7660 \def\@cite@opt{, #1}%
7661 \@citedatax[{#1}]%
7662 }%

7663 }{}

```

## 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.

```

7664 \ltx@ifclassloaded{slides}{%
7665   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7666   \def\Hy@PageAnchorSlidesPlain{%
7667     \advance\c@page\ltx@one
7668     \edef\Hy@TempPageAnchor{%
7669       \noexpand\hyper@@anchor{%
7670         page.\the\c@slide.\the\c@overlay.\the\c@note%
7671         \ifnum\c@page=\ltx@one
7672           \else
7673             .\the\c@page
7674           \fi
7675         }%
7676       }%
7677     \advance\c@page-\ltx@one
7678   }%
7679   \def\Hy@PageAnchorSlide{%
7680     \advance\c@page\ltx@one
7681     \ifnum\c@page>\ltx@one
7682       \ltx@ifundefined{theHpage}{%
7683         \protected@edef\Hy@TheSlideOptionalPage{%
7684           \Hy@SlidesFormatOptionalPage{\thepage}%
7685         }%
7686       }{%
7687         \protected@edef\Hy@TheSlideOptionalPage{%
7688           \Hy@SlidesFormatOptionalPage{\theHpage}%
7689         }%
7690       }%
7691     \else
7692       \def\Hy@TheSlideOptionalPage{}%
7693     \fi
7694     \advance\c@page-\ltx@one
7695     \pdfstringdef\@the@H@page{%
7696       \csname
7697         the%
7698         \ltx@ifundefined{theH\Hy@SlidesPage}{\H}%
7699         \Hy@SlidesPage
7700       \endcsname
7701     \Hy@TheSlideOptionalPage
7702   }%
7703   \ltx@gobblethree
7704 }%
7705 \def\Hy@SlidesPage{slide}%
7706 \g@addto@macro\slide{%
7707   \def\Hy@SlidesPage{slide}%
7708 }%
7709 \g@addto@macro\overlay{%
7710   \def\Hy@SlidesPage{overlay}%
7711 }%
7712 \g@addto@macro\note{%

```

```

7713 \def\Hy@SlidesPage{note}%
7714 }%
7715 }{%
7716 \def\Hy@PageAnchorSlidesPlain{}%
7717 \def\Hy@PageAnchorSlide{}%
7718 }
7719 \def\Hy@EveryPageAnchor{%
7720 \Hy@DistillerDestFix
7721 \ifHy@pageanchor
7722 \ifHy@hypertextnames
7723 \ifHy@plainpages
7724 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7725 \Hy@PageAnchorSlidesPlain
7726 \else
7727 \begingroup
7728 \let\@number\@firstofone
7729 \Hy@unicodedefalse
7730 \Hy@PageAnchorSlide
7731 \pdfstringdef\@the@H@page{\thepage}%
7732 \endgroup
7733 \EdefUnescapeString\@the@H@page{\@the@H@page}%
7734 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
7735 \fi
7736 \else
7737 \Hy@GlobalStepCount\Hy@pagecounter
7738 \def\Hy@TempPageAnchor{%
7739 \hyper@@anchor{page.\the\Hy@pagecounter}%
7740 }%
7741 \fi
7742 \vbox to 0pt{%
7743 \kern\voffset
7744 \kern\topmargin
7745 \kern-1bp\relax
7746 \hbox to 0pt{%
7747 \kern\hoffset
7748 \kern\ifodd\value{page}%
7749 \oddsidemargin
7750 \else
7751 \evensidemargin
7752 \fi
7753 \kern-1bp\relax
7754 \Hy@TempPageAnchor\relax
7755 \hss
7756 }%
7757 \vss
7758 }%
7759 \fi
7760 }
7761 \g@addto@macro\Hy@EveryPageBoxHook{%
7762 \Hy@EveryPageAnchor
7763 }

```

## 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.

```
7764 \def\addcontentsline#1#2#3{% toc extension, type, tag
7765 \begingroup
7766 \let\label\@gobble
7767 \ifx\@currentHref\@empty
7768 \Hy@Warning{%
7769   No destination for bookmark of \string\addcontentsline,%
7770   \MessageBreak destination is added%
7771 }%
7772 \phantomsection
7773 \fi
7774 \expandafter\ifx\csname toplevel@#2\endcsname\relax
7775 \begingroup
7776 \def\Hy@tempa{#1}%
7777 \ifx\Hy@tempa\Hy@bookmarkstype
7778 \Hy@WarningNoLine{%
7779   bookmark level for unknown #2 defaults to 0%
7780 }%
7781 \else
7782 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7783 \fi
7784 \endgroup
7785 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
7786 \fi
7787 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
7788 \Hy@writebookmark{\csname the#2\endcsname}%
7789 {#3}%
7790 {\@currentHref}%
7791 {\Hy@toplevel}%
7792 {#1}%
7793 \ifHy@verbose
7794 \begingroup
7795 \def\Hy@tempa{#3}%
7796 \@onelevel@sanitize\Hy@tempa
7797 \let\temp@online\on@line
7798 \let\on@line\@empty
7799 \Hy@Info{%
7800   bookmark\temp@online:\MessageBreak
7801   thecounter {\csname the#2\endcsname}\MessageBreak
7802   text {\Hy@tempa}\MessageBreak
7803   reference {\@currentHref}\MessageBreak
7804   toplevel {\Hy@toplevel}\MessageBreak
7805   type {#1}%
7806 }%
7807 \endgroup
7808 \fi
7809 \addtocontents{#1}{%
7810 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7811 }%
7812 \endgroup
7813 }
7814 \def\contentsline#1#2#3#4{%
7815 \ifx\#4\%
7816 \csname l@#1\endcsname{#2}{#3}%
7817 \else
7818 \ifcase\Hy@linktoc % none
7819 \csname l@#1\endcsname{#2}{#3}%
```

```

7820 \or % section
7821 \csname l@#1\endcsname{%
7822 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7823 }{#3}%
7824 \or % page
7825 \csname l@#1\endcsname{#{#2}}{%
7826 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7827 }%
7828 \else % all
7829 \csname l@#1\endcsname{%
7830 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7831 }{%
7832 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7833 }%
7834 \fi
7835 \fi
7836 }

7837 </package>
7838 <*check>
7839 \checklatex
7840 \checkcommand\def\addcontentsline#1#2#3{%
7841 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7842 }
7843 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7844 </check>
7845 <*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.

```

7846 \let\H@definecounter\@definecounter
7847 \def\@definecounter#1{%
7848 \H@definecounter{#1}%
7849 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7850 }

```

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.

```

7851 \let\H@newctr\@newctr
7852 \def\@newctr#1[#2]{%
7853 \H@newctr#1[{#2}]%
7854 \expandafter\def\csname theH#1\endcsname{%
7855 \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7856 }%
7857 }

```

## 41 AMS $\LaTeX$ compatibility

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

Version 6.77p uses a patch by Ross Moore.

```

7858 \ifpackageloaded{amsmath}{%
7859   \def\Hy@make@anchor{%
7860     \Hy@MakeCurrentHrefAuto{AMS}%
7861     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7862   }%
7863   \def\Hy@make@df@tag@@#1{%
7864     \gdef\df@tag{%
7865       \maketag@@@{\Hy@make@anchor#1}%
7866       \def\@currentlabel{#1}%
7867     }%
7868   }%
7869   \def\Hy@make@df@tag@@@#1{%
7870     \gdef\df@tag{%
7871       \tagform@{\Hy@make@anchor#1}%
7872       \toks@{\xp{\p@equation{#1}}}%
7873       \edef\@currentlabel{\the\toks@}%
7874     }%
7875   }%
7876   \let\HyOrg@make@df@tag@@\make@df@tag@@
7877   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
7878   \let\make@df@tag@@\Hy@make@df@tag@@
7879   \let\make@df@tag@@@\Hy@make@df@tag@@@
7880 }{}

```

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

```

7881 \ifpackagewith{hyperref}{pdfTeX}{%
7882   \let\H@seteqlabel\@seteqlabel
7883   \def\@seteqlabel#1{%
7884     \H@seteqlabel{#1}%
7885     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
7886     \Hy@raisedlink{%
7887       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7888     }%
7889   }%
7890 }{}

```

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.

```

7891 \let\HyOrg@addtoreset\@addtoreset
7892 \def\@addtoreset#1#2{%
7893   \HyOrg@addtoreset{#1}{#2}%
7894   \expandafter\xdef\csname theH#1\endcsname{%
7895     \expandafter\noexpand

```

```

7896 \csname the\@ifundefined{theH#2}{H#2\endcsname
7897 .\noexpand\the\noexpand\value{#1}%
7898 }%
7899 }

```

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

```

7900 </package>
7901 <*check>
7902 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
7903 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
7904 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7905 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7906 \@addtoreset{#2}{#3}%
7907 \exp\xdef\csname the#2\endcsname{%
7908 \exp\xnx\csname the#3\endcsname .\@nx#1{#2}%
7909 }%
7910 }%
7911 }%
7912 }%
7913 </check>
7914 <*package>
7915 \@ifpackageloaded{amsmath}{%
7916 \@ifpackagelater{amsmath}{1999/12/14}{%
7917 \renewcommand*{\numberwithin}[3][\arabic]{%
7918 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7919 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7920 \HyOrg@addtoreset{#2}{#3}%
7921 \exp\xdef\csname the#2\endcsname{%
7922 \exp\xnx\csname the#3\endcsname .\@nx#1{#2}%
7923 }%
7924 \exp\xdef\csname theH#2\endcsname{%
7925 \exp\xnx
7926 \csname the\@ifundefined{theH#3}{H#3\endcsname
7927 .\@nx#1{#2}%
7928 }%
7929 }%
7930 }%
7931 }%
7932 }{%
7933 \Hy@WarningNoLine{%
7934 \string\numberwithin\space of package 'amsmath' %
7935 only fixed\MessageBreak
7936 for version 2000/06/06 v2.12 or newer%
7937 }%
7938 }%
7939 }{}

```

## 42 Included figures

Simply intercept the low level graphics package macro.

```

7940 \ifHy@figures
7941 \let\Hy@Gin@setfile\Gin@setfile
7942 \def\Gin@setfile#1#2#3{%
7943 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7944 }%

```

```

7945 \fi
7946 \Hy@DisableOption{hyperfigures}

```

## 43 hyperindex entries

Internal command names are prefixed with \HyInd@.

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

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

```

7947 \ifHy@hyperindex
7948 \def\HyInd@ParenLeft{({}%
7949 \def\HyInd@ParenRight{)}}%
7950 \def\hyperindexformat#1#2{%
7951 \let\HyOrg@hyperpage\hyperpage
7952 \let\hyperpage\@firstofone
7953 #1{\HyOrg@hyperpage{#2}}%
7954 \let\hyperpage\HyOrg@hyperpage
7955 }%
7956 \Hy@nextfalse
7957 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
7958 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
7959 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
7960 \begingroup
7961 \lccode'\|=\expandafter\HyInd@EncapChar\relax
7962 \lccode'\|/\|=\|/\relax
7963 \lowercase{\endgroup
7964 \ifHy@next
7965 \let\HyInd@org@wrindex\@wrindex
7966 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\|}%
7967 \def\HyInd@@wrindex#1#2|#3|#4\|{%
7968 \|x\|#3\|
7969 \HyInd@org@wrindex{#1}{#2|hyperpage}%
7970 \else
7971 \HyInd@@@wrindex{#1}{#2}#3\|
7972 \fi
7973 }%
7974 \def\HyInd@@@wrindex#1#2#3#4\|{%
7975 \def\Hy@temp@A{#3}%
7976 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7977 \|x\Hy@temp@A\HyInd@ParenRight 1\fi
7978 \relax
7979 \HyInd@org@wrindex{#1}{%
7980 #2|hyperindexformat{/#3#4}%
7981 }%
7982 \else
7983 \|x\|#4\|
7984 \|x\Hy@temp@A\HyInd@ParenRight
7985 \HyInd@org@wrindex{#1}{#2|#3}%
7986 \else
7987 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%

```

```

7988     \fi
7989     \else
7990         \HyInd@org@wrindex{#1}{%
7991             #2|#3hyperindexformat{/#4}%
7992         }%
7993     \fi
7994     \fi
7995 }%
7996 \else
7997     \def\@wrindex#1{\@wrindex#1||\}%
7998     \def\@wrindex#1|#2|#3\{%
7999         \if@filesw
8000             \ifx\#2\%
8001                 \protected@write\@indexfile{}\{%
8002                     \string\indexentry{#1|hyperpage}{\thepage}%
8003                 }%
8004             \else
8005                 \HyInd@@@wrindex{#1}#2\%
8006             \fi
8007         \fi
8008     \endgroup
8009     \@esphack
8010 }%
8011 \def\HyInd@@@wrindex#1#2#3\{%
8012     \def\Hy@temp@A{#2}%
8013     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8014         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8015         \relax
8016     \protected@write\@indexfile{}\{%
8017         \string\indexentry{%
8018             #1|hyperindexformat{/#2#3}%
8019         }\thepage}%
8020     }%
8021 \else
8022     \ifx\#3\%
8023         \ifx\Hy@temp@A\HyInd@ParenRight
8024             \protected@write\@indexfile{}\{%
8025                 \string\indexentry{#1|#2}{\thepage}%
8026             }%
8027         \else
8028             \protected@write\@indexfile{}\{%
8029                 \string\indexentry{#1|#2hyperpage}{\thepage}%
8030             }%
8031         \fi
8032     \else
8033         \protected@write\@indexfile{}\{%
8034             \string\indexentry{%
8035                 #1|#2hyperindexformat{/#3}%
8036             }\thepage}%
8037     }%
8038     \fi
8039     \fi
8040 }%
8041 \fi
8042 }%
8043 \fi
8044 \Hy@DisableOption{hyperindex}

```

```
8045 \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.

```
8046 \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.

```
8047 \def\hyperpage#1{%
8048   \HyInd@hyperpage#1\nohyperpage{}\@nil
8049 }
8050 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8051   \HyInd@@hyperpage{#1}%
8052   #2%
8053   \def\Hy@temp{#3}%
8054   \ifx\Hy@temp\@empty
8055     \else
8056       \Hy@ReturnAfterFi{%
8057         \HyInd@hyperpage#3\@nil
8058       }%
8059   \fi
8060 }
8061 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8062 \def\@hyperpage#1--#2--#3\{\%
8063   \ifx\#2\%
8064     \@commahyperpage{#1}%
8065   \else
8066     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8067   \fi
8068 }
8069 \def\@commahyperpage#1{\@commahyperpage#1, \}
8070 \def\@commahyperpage#1, #2,#3\{\%
8071   \ifx\#2\%
8072     \HyInd@pagelink{#1}%
8073   \else
8074     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8075   \fi
8076 }
```

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

```
8077 \def\HyInd@pagelink#1{%
8078   \begingroup
8079   \toks@={}%
8080   \HyInd@removespaces#1 \@nil
8081   \endgroup
8082 }
8083 \def\HyInd@removespaces#1 #2\@nil{%
8084   \toks@=\expandafter{\the\toks@#1}%
8085   \ifx\#2\%
8086     \edef\x{\the\toks@}%
8087     \ifx\x\@empty
8088       \else
8089         \hyperlink{page.\the\toks@}{\the\toks@}%
8090       \fi
8091     \else
8092       \Hy@ReturnAfterFi{%
```

```

8093 \HyInd@removespaces#2\@nil
8094 }%
8095 \fi
8096 }

```

## 44 Compatibility with foiltex

```

8097 \ifclassloaded{foils}{%
8098 \providecommand*\ext@table{lot}%
8099 \providecommand*\ext@figure{lof}%
8100 }{}

```

## 45 Compatibility with seminar slide package

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

```

8101 \ifclassloaded{seminar}{%
8102 \Hy@seminarstrue\newcommand\theHslide{\arabic{slide}}%
8103 }{}%
8104 \Hy@seminarslidesfalse
8105 }
8106 \ifpackageloaded{slidesec}{%
8107 \newcommand\theHslidesection {\arabic{slide}}%
8108 \newcommand\theHslidesubsection{%
8109 \theHslidesection.\arabic{slidesubsection}}%
8110 }%
8111 \def\slide@heading[#1]#2{%
8112 \H@refstepcounter{slidesection}%
8113 \@addtoreset{slidesubsection}{slidesection}%
8114 \addtocontents{los}{%
8115 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}}%
8116 {\@SCTR}{slideheading.\theslidesection}}%
8117 }%
8118 \def\Hy@tempa{#2}%
8119 \ifx\Hy@tempa\@empty
8120 \else
8121 {%
8122 \edef\@currentlabel{%
8123 \csname p@slidesection\endcsname\theslidesection
8124 }%
8125 \makeslideheading{#2}%
8126 }%
8127 \fi
8128 \gdef\theslideheading{#1}%
8129 \gdef\theslidesubheading{}%
8130 \ifHy@bookmarksnumbered
8131 \def\Hy@slidetitle{\theslidesection\space #1}%
8132 \else
8133 \def\Hy@slidetitle{#1}%
8134 \fi
8135 \ifHy@hypertextnames
8136 \ifHy@naturalnames
8137 \hyper@anchor{slideheading.\theslidesection}{\relax}%
8138 \Hy@writebookmark
8139 {\theslidesection}%
8140 {\Hy@slidetitle}%

```

```

8141         {slideheading.\theslidesection}%
8142         {1}%
8143         {toc}%
8144     \else
8145         \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8146         \Hy@writebookmark
8147             {\theslidesection}%
8148             {\Hy@slidetitle}%
8149             {slideheading.\theHslidesection}%
8150             {1}%
8151             {toc}%
8152     \fi
8153 \else
8154     \Hy@GlobalStepCount\Hy@linkcounter
8155     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8156     \Hy@writebookmark
8157         {\theslidesection}%
8158         {\Hy@slidetitle}%
8159         {slideheading.\the\Hy@linkcounter}%
8160         {1}%
8161         {toc}%
8162 \fi
8163 }%
8164 \def\slide@subheading[#1]#2{%
8165     \H@refstepcounter{slidesubsection}%
8166     \addtocontents{los}{%
8167         \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8168         {\@SCTR}{slideheading.\theslidesubsection}%
8169     }%
8170 \def\Hy@tempa{#2}%
8171 \ifx\Hy@tempa\@empty
8172 \else
8173     {%
8174         \edef\@currentlabel{%
8175             \csname p@slidesubsection\endcsname\theslidesubsection
8176         }%
8177         \makeslidesubheading{#2}%
8178     }%
8179 \fi
8180 \gdef\theslidesubheading{#1}%
8181 \ifHy@bookmarksnumbered
8182     \def\Hy@slidetitle{\theslidesubsection\space #1}%
8183 \else
8184     \def\Hy@slidetitle{#1}%
8185 \fi
8186 \ifHy@hypertextnames
8187     \ifHy@naturalnames
8188         \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8189         \Hy@writebookmark
8190             {\theslidesubsection}%
8191             {\Hy@slidetitle}%
8192             {slideheading.\theslidesubsection}%
8193             {2}%
8194             {toc}%
8195     \else
8196         \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8197         \Hy@writebookmark

```

```

8198     {\theslidesubsection}%
8199     {\Hy@slidetitle}%
8200     {slideheading.\theHslidesubsection}%
8201     {2}%
8202     {toc}%
8203   \fi
8204   \else
8205     \Hy@GlobalStepCount\Hy@linkcounter
8206     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8207     \Hy@writebookmark
8208     {\theslidesubsection}%
8209     {\Hy@slidetitle}%
8210     {slideheading.\the\Hy@linkcounter}%
8211     {1}%
8212     {toc}%
8213   \fi
8214 }%
8215 \providecommand*{\listslidenam}{List of Slides}%
8216 \def\listofslides{%
8217   \section*{%
8218     \listslidenam
8219     \@mkboth{%
8220       \expandafter\MakeUppercase\listslidenam
8221     }{%
8222       \expandafter\MakeUppercase\listslidenam
8223     }%
8224   }%
8225   \def\l@slide##1##2##3##4{%
8226     \slide@undottedcline{%
8227       \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8228     }{%
8229     }%
8230     \let\l@subslide\l@slide
8231     \@startlos
8232   }%
8233   \def\slide@contents{%
8234     \def\l@slide##1##2##3##4{%
8235       \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8236     }%
8237     \let\l@subslide\@gobblefour
8238     \@startlos
8239   }%
8240   \def\Slide@contents{%
8241     \def\l@slide##1##2##3##4{%
8242       \ifcase\lslide@flag
8243         \message{##1 ** \the\c@slidesection}%
8244         \ifnum##1>\c@slidesection
8245           \def\lslide@flag{1}%
8246           {%
8247             \large
8248             \slide@ccline{%
8249               \slidenumberline{$\Rightarrow\bullet$}%
8250               {\hyperlink{##4}{##2}}%
8251             }{##3}%
8252           }%
8253         \else
8254           {%

```

```

8255     \large
8256     \slide@cline{%
8257         \slidenumberline{$\surd\;\bullet$}%
8258         {\hyperlink{##4}{##2}}%
8259     }{##3}%
8260 }%
8261 \fi
8262 \or
8263 \def\lslide@flag{2}%
8264 {%
8265     \large
8266     \slide@cline{%
8267         \slidenumberline{$\bullet$}%
8268         {\hyperlink{##4}{##2}}%
8269     }{##3}%
8270 }%
8271 \or
8272 {%
8273     \large
8274     \slide@cline{%
8275         \slidenumberline{$\bullet$}%
8276         {\hyperlink{##4}{##2}}%
8277     }{##3}%
8278 }%
8279 \fi
8280 }%
8281 \def\l@subslide##1##2##3##4{%
8282     \ifnum\lslide@flag=1 %
8283         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
8284     \fi
8285 }%
8286 \def\lslide@flag{0}%
8287 \@startlos
8288 }%
8289 }{}

```

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.)

```

8290 \ifHy@texht
8291     \expandafter\endinput
8292 \fi
8293 \let\real@setref\@setref
8294 \def\@setref#1#2#3{% csname, extract group, refname
8295     \ifx#1\relax
8296         \protect\G@refundefinedtrue
8297         \nfss@text{\reset@font\bfseries ??}%
8298         \@latex@warning{%
8299             Reference ‘#3’ on page \thepage \space undefined%
8300         }%
8301     \else
8302         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8303     \fi
8304 }

```

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

```

8305 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%

```

```

8306 \begingroup
8307 \toks0={\hyper@@link{#5}{#4}}%
8308 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8309 \edef\x{\endgroup
8310 \the\toks0 \the\toks1 }%
8311 }%
8312 \x
8313 }
8314 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8315 \ifx#1\relax
8316 \protect\G@refundefinedtrue
8317 \nfss@text{\reset@font\bfseries ??}%
8318 \@latex@warning{%
8319 Reference '#3' on page \thepage \space undefined%
8320 }%
8321 \else
8322 \protect\hyper@@link
8323 {\expandafter\@fifthoffive#1}%
8324 {page.\expandafter\@secondoffive#1}%
8325 {\expandafter\@secondoffive#1}%
8326 \fi
8327 }
8328 </package>
8329 <*check>
8330 \checklatex
8331 \checkcommand\def\@setref#1#2#3{%
8332 \ifx#1\relax
8333 \protect\G@refundefinedtrue
8334 \nfss@text{\reset@font\bfseries ??}%
8335 \@latex@warning{%
8336 Reference '#3' on page \thepage\space undefined%
8337 }%
8338 \else
8339 \expandafter#2#1\null
8340 \fi
8341 }
8342 </check>
8343 <*package>

```

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

```

8344 \def\HyRef@StarSetRef#1{%
8345 \begingroup
8346 \Hy@safe@activetrue
8347 \edef\x{#1}%
8348 \@onelevel@sanitize\x
8349 \edef\x{\endgroup
8350 \noexpand\HyRef@@StarSetRef
8351 \expandafter\noexpand\csname r@\x\endcsname{\x}%
8352 }%
8353 \x
8354 }
8355 \def\HyRef@@StarSetRef#1#2#3{%
8356 \ifx#1\@undefined
8357 \let#1\relax
8358 \fi
8359 \real@setref#1#3{#2}%

```

```

8360 }
8361 \def\@refstar#1{%
8362   \HyRef@StarSetRef{#1}\@firstoffive
8363 }
8364 \def\@pagerefstar#1{%
8365   \HyRef@StarSetRef{#1}\@secondoffive
8366 }
8367 \def\@namerefstar#1{%
8368   \HyRef@StarSetRef{#1}\@thirdoffive
8369 }
8370 \Hy@AtBeginDocument{%
8371   \ifpackageloaded{varioref}{%
8372     \def\@Refstar#1{%
8373       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8374     }%
8375     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8376       \MakeUppercase#1%
8377     }%
8378     \DeclareRobustCommand*\@Ref*{%
8379       \ifstar\@Refstar\HyRef@Ref
8380     }%
8381     \def\HyRef@Ref#1{%
8382       \hyperref[{#1}]{\@Ref*{#1}}%
8383     }%
8384     \def\@Vr@f#1{%
8385       \leavevmode\unskip\vref@space
8386       \hyperref[{#1}]{%
8387         \@Ref*{#1}%
8388         \let\vref@space\nobreakspace
8389         \@vpageref[\unskip]{#1}%
8390       }%
8391     }%
8392     \def\@Vr@f#1{%
8393       \leavevmode\unskip\vref@space
8394       \begingroup
8395       \let\T@pageref\@pagerefstar
8396       \hyperref[{#1}]{%
8397         \@Ref*{#1}%
8398         \vpageref[\unskip]{#1}%
8399       }%
8400     \endgroup
8401   }%
8402 }{}%
8403 }
8404 \DeclareRobustCommand*\@autopageref{%
8405   \ifstar{%
8406     \HyRef@autopagerefname\pageref*%
8407   }\HyRef@autopageref
8408 }
8409 \def\HyRef@autopageref#1{%
8410   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8411 }
8412 \def\HyRef@autopagerefname{%
8413   \ltx@ifundefined{pageautorefname}{%
8414     \ltx@ifundefined{pagename}{%
8415       \Hy@Warning{No autoref name for ‘page’}%
8416     }{%

```

```

8417 \pagename\nobreakspace
8418 }%
8419 }{%
8420 \pageautorefname\nobreakspace
8421 }%
8422 }
8423 \DeclareRobustCommand*{\autoref}{%
8424 \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
8425 }
8426 \def\HyRef@autoref#1#2{%
8427 \begingroup
8428 \Hy@safe@activetrue
8429 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8430 \endgroup
8431 }
8432 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8433 \HyRef@ShowKeysRef{#2}%
8434 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8435 \edef\HyRef@thisref{%
8436 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8437 }%
8438 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8439 \Hy@safe@activesfalse
8440 #3{%
8441 \expandafter\@fifthoffive#1\@empty\@empty\@empty
8442 }{%
8443 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8444 }{%
8445 \HyRef@currentHtag
8446 \expandafter\@firstoffive#1\@empty\@empty\@empty
8447 \null
8448 }%
8449 \else
8450 \protect\G@refundefinedtrue
8451 \nfss@text{\reset@font\bfseries ??}%
8452 \@latex@warning{%
8453 Reference '#2' on page \thepage\space undefined%
8454 }%
8455 \fi
8456 }
8457 \def\HyRef@testreftype#1.#2\{\%
8458 \ltx@ifundefined{#1autorefname}{%
8459 \ltx@ifundefined{#1name}{%
8460 \HyRef@StripStar#1\*\@nil{#1}%
8461 \ltx@ifundefined{\HyRef@name autorefname}{%
8462 \ltx@ifundefined{\HyRef@name name}{%
8463 \def\HyRef@currentHtag{}%
8464 \Hy@Warning{No autoref name for '#1'}%
8465 }{%
8466 \edef\HyRef@currentHtag{%
8467 \expandafter\noexpand\csname\HyRef@name name\endcsname
8468 \noexpand~%
8469 }%
8470 }%
8471 }{%
8472 \edef\HyRef@currentHtag{%
8473 \expandafter\noexpand

```

```

8474     \csname\HyRef@name autorefname\endcsname
8475     \noexpand~%
8476   }%
8477 }%
8478 }{%
8479   \edef\HyRef@currentHtag{%
8480     \expandafter\noexpand\csname#1name\endcsname
8481     \noexpand~%
8482   }%
8483 }%
8484 }{%
8485   \edef\HyRef@currentHtag{%
8486     \expandafter\noexpand\csname#1autorefname\endcsname
8487     \noexpand~%
8488   }%
8489 }%
8490 }
8491 \def\HyRef@StripStar#1*\#2\@nil#3{%
8492   \def\HyRef@name{#2}%
8493   \ifx\HyRef@name\HyRef@CaseStar
8494     \def\HyRef@name{#1}%
8495   \else
8496     \def\HyRef@name{#3}%
8497   \fi
8498 }
8499 \def\HyRef@CaseStar{*\\}
8500 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8501 \let\HyRef@ShowKeysRef\@gobble
8502 \def\HyRef@ShowKeysInit{%
8503   \begingroup\expandafter\expandafter\expandafter\endgroup
8504   \expandafter\ifx\csname SK@@label\endcsname\relax
8505   \else
8506     \ifx\SK@ref\@empty
8507     \else
8508       \def\HyRef@ShowKeysRef{%
8509         \SK@\SK@@ref
8510       }%
8511     \fi
8512   \fi
8513 }
8514 \@ifpackageloaded{showkeys}{%
8515   \HyRef@ShowKeysInit
8516 }{%
8517   \Hy@AtBeginDocument{%
8518     \@ifpackageloaded{showkeys}{%
8519       \HyRef@ShowKeysInit
8520     }{}%
8521   }%
8522 }

```

Defaults for the names that \autoref uses.

```

8523 \providecommand*\AMSautorefname{\equationautorefname}
8524 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8525 \providecommand*\Itemautorefname{\itemautorefname}

```

```

8526 \providecommand*\itemautorefname{item}
8527 \providecommand*\equationautorefname{Equation}
8528 \providecommand*\footnoteautorefname{footnote}
8529 \providecommand*\itemautorefname{item}
8530 \providecommand*\figureautorefname{Figure}
8531 \providecommand*\tableautorefname{Table}
8532 \providecommand*\partautorefname{Part}
8533 \providecommand*\appendixautorefname{Appendix}
8534 \providecommand*\chapterautorefname{chapter}
8535 \providecommand*\sectionautorefname{section}
8536 \providecommand*\subsectionautorefname{subsection}
8537 \providecommand*\subsubsectionautorefname{subsubsection}
8538 \providecommand*\paragraphautorefname{paragraph}
8539 \providecommand*\subparagraphautorefname{subparagraph}
8540 \providecommand*\FancyVerbLineautorefname{line}
8541 \providecommand*\theoremautorefname{Theorem}
8542 \providecommand*\pageautorefname{page}
8543 \end{package}

```

## 46 Configuration files

### 46.1 PS/PDF strings

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

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdfTeX offers `\pdfescapestring`.

```

8544 < *pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo)
8545 \begingroup\expandafter\expandafter\expandafter\endgroup
8546 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8547   \begingroup
8548     \catcode'\=0 %
8549     \@makeother\%
8550     |@firstofone{|endgroup
8551     |def|Hy@pstringdef#1#2{%
8552       |begingroup
8553         |edef~{|string~}%
8554         |xdef|Hy@gtemp{#2}%
8555       |endgroup
8556       |let#1|Hy@gtemp
8557       |@onelevel@sanitize#1%
8558       |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8559       |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8560       |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8561     }%
8562     |def|Hy@ExchangeBackslash#1\#2|@nil{%
8563       #1%
8564       |ifx|\#2|\%
8565       |else
8566         \\\%
8567       |Hy@ReturnAfterFi{%
8568         |Hy@ExchangeBackslash#2|@nil
8569       }%

```

```

8570   |fi
8571  }%
8572 }%
8573 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8574   #1%
8575   \ifx\#2\%
8576   \else
8577     \@backslashchar(%
8578     \Hy@ReturnAfterFi{%
8579       \Hy@ExchangeLeftParenthesis#2\@nil
8580     }%
8581   \fi
8582 }%
8583 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8584   #1%
8585   \ifx\#2\%
8586   \else
8587     \@backslashchar)%
8588     \Hy@ReturnAfterFi{%
8589       \Hy@ExchangeRightParenthesis#2\@nil
8590     }%
8591   \fi
8592 }%
8593 \else
8594   \def\Hy@pstringdef#1#2{%
8595     \begingroup
8596       \edef~{\string~}%
8597       \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8598     \endgroup
8599     \let#1\Hy@gtemp
8600   }%
8601 \fi
8602 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 46.2 pdfTeX

```

8603 <*pdfTeX>
8604 \providecommand*{\XR@ext}{pdf}
8605 \Hy@setbreaklinks{true}
8606 \def\HyPat@ObjRef{%
8607   [0-9]*[1-9][0-9]* 0 R%
8608 }

```

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

Set PDF version if requested by option `pdfversion`.

- pdfT<sub>E</sub>X 1.10a, 2003-01-16: `\pdfoptionpdfminorversion`
- pdfT<sub>E</sub>X 1.30, 2005-08-081: `\pdfminorversion`

```

8609 \let\Hy@pdfminorversion\relax
8610 \begingroup\expandafter\expandafter\expandafter\endgroup
8611 \expandafter\ifx\cname pdfminorversion\endcname\relax
8612   \begingroup\expandafter\expandafter\expandafter\endgroup
8613   \expandafter\ifx\cname pdfoptionpdfminorversion\endcname\relax
8614   \else
8615     \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%

```

```

8616 \fi
8617 \else
8618 \def\Hy@pdfminorversion{\pdfminorversion}%
8619 \fi
8620 \@ifundefined{Hy@pdfminorversion}{%
8621 \PackageInfo{hyperref}{%
8622 PDF version is not set, because pdfTeX is too old (<1.10a)%
8623 }%
8624 }{%
8625 \ifHy@ocgcolorlinks
8626 \ifnum\Hy@pdfminorversion<5 %
8627 \kvsetkeys{Hyp}{pdfversion=1.5}%
8628 \fi
8629 \fi
8630 \ifHy@setpdfversion
8631 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8632 \else
8633 \Hy@pdfminorversion=\Hy@pdfversion\relax
8634 \fi
8635 \PackageInfo{hyperref}{%
8636 \expandafter\string\Hy@pdfminorversion
8637 :=\number\Hy@pdfversion\space
8638 }%
8639 \fi
8640 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8641 }
8642 \Hy@DisableOption{pdfversion}%

8643 \ifHy@ocgcolorlinks
8644 \pdf@ifdraftmode{}{%
8645 \immediate\pdfobj{%
8646 <<%
8647 /Type/OCG%
8648 /Name(View)%
8649 /Usage<<%
8650 /Print<<%
8651 /PrintState/OFF%
8652 >>%
8653 /View<<%
8654 /ViewState/ON%
8655 >>%
8656 >>%
8657 >>%
8658 }%
8659 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
8660 \immediate\pdfobj{%
8661 <<%
8662 /Type/OCG%
8663 /Name(Print)%
8664 /Usage<<%
8665 /Print<<%
8666 /PrintState/ON%
8667 >>%
8668 /View<<%
8669 /ViewState/OFF%
8670 >>%
8671 >>%
8672 >>%

```

```

8673 }%
8674 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
8675 \immediate\pdfobj{%
8676   [%
8677     \OBJ@OCG@view\space\OBJ@OCG@print
8678   ]%
8679 }%
8680 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
8681 \pdfcatalog{%
8682   /OCProperties<<%
8683     /OCGs \OBJ@OCGs
8684   /D<<%
8685     /OFF[\OBJ@OCG@print]%
8686     /AS[%
8687       <<%
8688         /Event/View%
8689         /OCGs \OBJ@OCGs
8690         /Category[/View]%
8691       >>%
8692       <<%
8693         /Event/Print%
8694         /OCGs \OBJ@OCGs
8695         /Category[/Print]%
8696       >>%
8697       <<%
8698         /Event/Export%
8699         /OCGs \OBJ@OCGs
8700         /Category[/Print]%
8701       >>%
8702     ]%
8703   >>%
8704 }%
8705 }%
8706 \begingroup
8707 \edef\x{\endgroup
8708   \pdfpageresources{%
8709     /Properties<<%
8710       /OCView \OBJ@OCG@view
8711       /OCPrint \OBJ@OCG@print
8712     >>%
8713   }%
8714 }%
8715 \x
8716 }%
8717 \Hy@AtBeginDocument{%
8718   \def\Hy@colorlink#1{%
8719     \begingroup
8720       \ifHy@ocgcolorlinks
8721         \def\Hy@ocgcolor{#1}%
8722         \setbox0=\hbox\bgroup\color@begingroup
8723       \else
8724         \HyColor@UseColor#1%
8725       \fi
8726     }%
8727   \def\Hy@endcolorlink{%
8728     \ifHy@ocgcolorlinks
8729       \color@endgroup\egroup

```

```

8730 \mbox{%
8731 \pdfliteral page{/OC/OCPrint BDC}%
8732 \rlap{\copy0}%
8733 \pdfliteral page{EMC/OC/OCView BDC}%
8734 \begingroup
8735 \expandafter\HyColor@UseColor\Hy@ocgcolor
8736 \box0 %
8737 \endgroup
8738 \pdfliteral page{EMC}%
8739 }%
8740 \fi
8741 \endgroup
8742 }%
8743 }%
8744 \else
8745 \Hy@DisableOption{ocgcolorlinks}%
8746 \fi

```

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

```

8747 \def\setpdfinkmargin#1{\pdfinkmargin#1}
8748 \ifx\pdfstartlink\@undefined% less than version 14
8749 \let\pdfstartlink\pdfannotlink
8750 \let\pdfinkmargin\@tempdima
8751 \let\pdfxform\pdfform
8752 \let\pdfastxform\pdfastform
8753 \let\pdfrefxform\pdfrefform
8754 \else
8755 \pdfinkmargin1pt %
8756 \fi

```

First set up the default linking

```
8757 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

8758 \Hy@WrapperDef\new@pdfink#1{%
8759 \ifhmode
8760 \@savs\spacefactor
8761 \fi
8762 \Hy@SaveLastskip
8763 \Hy@VerboseAnchor{#1}%
8764 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8765 \Hy@DestName\Hy@pstringDest\@pdfview
8766 \Hy@RestoreLastskip
8767 \ifhmode
8768 \spacefactor\@savs
8769 \fi
8770 }
8771 \let\pdf@endanchor\@empty

```

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

```

8772 \def\Hy@DestName#1#2{%
8773 \pdfdest name{#1}#2\relax
8774 }

```

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.

```

8775 \providecommand*\@pdfborder{0 0 1}
8776 \providecommand*\@pdfborderstyle{}
8777 \def\Hy@undefinedname{UNDEFINED}
8778 \def\find@pdflink#1#2{%
8779   \leavevmode
8780   \protected@edef\Hy@testname{#2}%
8781   \ifx\Hy@testname\@empty
8782     \Hy@Warning{%
8783       Empty destination name,\MessageBreak
8784       using '\Hy@undefinedname'%
8785     }%
8786     \let\Hy@testname\Hy@undefinedname
8787   \else
8788     \Hy@pstringdef\Hy@testname{%
8789       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8790     }%
8791   \fi
8792   \Hy@StartlinkName{%
8793     \ifHy@pdfa /F 4\fi
8794     \Hy@setpdfborder
8795     \ifx\@pdfhighlight\@empty
8796       \else
8797         /H\@pdfhighlight
8798       \fi
8799     \ifx\CurrentBorderColor\relax
8800       \else
8801         /C[\CurrentBorderColor]%
8802       \fi
8803   }\Hy@testname
8804   \expandafter\Hy@colorlink\csname @#1color\endcsname
8805 }
8806 \def\Hy@StartlinkName#1#2{%
8807   \pdfstartlink attr{#1}goto name{#2}\relax
8808 }
8809 \def\close@pdflink{%
8810   \Hy@endcolorlink
8811   \Hy@VerboseLinkStop
8812   \pdfendlink
8813 }
8814 \def\hyper@anchor#1{%
8815   \new@pdflink{#1}\anchor@spot\pdf@endanchor
8816 }
8817 \def\hyper@anchorstart#1{%
8818   \new@pdflink{#1}%
8819   \Hy@activeanchortrue
8820 }
8821 \def\hyper@anchorend{%
8822   \pdf@endanchor
8823   \Hy@activeanchorfalse
8824 }
8825 \def\hyper@linkstart#1#2{%
8826   \Hy@VerboseLinkStart{#1}{#2}%
8827   \ltx@ifundefined{@#1bordercolor}{%
8828     \let\CurrentBorderColor\relax
8829   }{%

```

```

8830 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8831 }%
8832 \find@pdfink{#1}{#2}%
8833 }
8834 \def\hyper@linkend{\close@pdfink}
8835 \def\hyper@link#1#2#3{%
8836 \Hy@VerboseLinkStart{#1}{#2}%
8837 \ltx@ifundefined{@#1bordercolor}{%
8838 \let\CurrentBorderColor\relax
8839 }{%
8840 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8841 }%
8842 \find@pdfink{#1}{#2}#3%
8843 \close@pdfink
8844 }
8845 \let\CurrentBorderColor\@linkbordercolor
8846 \def\hyper@linkurl#1#2{%
8847 \begingroup
8848 \Hy@pstringdef\Hy@pstringURI{#2}%
8849 \hyper@chars
8850 \leavevmode
8851 \pdfstartlink
8852 attr{%
8853 \Hy@setpdfborder
8854 \ifx\@pdfnighlight\@empty
8855 \else
8856 /H\@pdfhighlight
8857 \fi
8858 \ifx\@urlbordercolor\relax
8859 \else
8860 /C[\@urlbordercolor]%
8861 \fi
8862 }%
8863 user{%
8864 /Subtype/Link%
8865 \ifHy@pdfa /F 4\fi
8866 /A<<%
8867 /Type/Action%
8868 /S/URI%
8869 /URI(\Hy@pstringURI)%
8870 \ifHy@href@ismap
8871 /IsMap true%
8872 \fi
8873 \Hy@href@nextactionraw
8874 >>%
8875 }%
8876 \relax
8877 \Hy@colorlink\@urlcolor#1%
8878 \close@pdfink
8879 \endgroup
8880 }
8881 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8882 \begingroup
8883 \def\Hy@pstringF{#2}%
8884 \Hy@CleanupFile\Hy@pstringF
8885 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
8886 \Hy@pstringdef\Hy@pstringD{#3}%

```

```

8887 \Hy@MakeRemoteAction
8888 \leavevmode
8889 \pdfstartlink
8890 attr{%
8891 \Hy@setpdfborder
8892 \ifx\@pdfhighlight\@empty
8893 \else
8894 /H\@pdfhighlight
8895 \fi
8896 \ifx\@filebordercolor\relax
8897 \else
8898 /C[\@filebordercolor]%
8899 \fi
8900 }%
8901 user {%
8902 /Subtype/Link%
8903 \ifHy@pdfa /F 4\fi
8904 /A<<%
8905 /F(\Hy@pstringF)%
8906 /S/GoToR%
8907 \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}

```

```

8908 \ifx\#3\%
8909 /D[\Hy@href@page\@pdfremotestartview]%
8910 \else
8911 /D(\Hy@pstringD)%
8912 \fi
8913 \Hy@href@nextactionraw
8914 >>%
8915 }%
8916 \relax
8917 \Hy@colorlink\@filecolor#1%
8918 \close@pdflink
8919 \endgroup
8920 }
8921 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
8922 \begingroup
8923 \Hy@pstringdef\Hy@pstringF{#1}%
8924 \Hy@pstringdef\Hy@pstringP{#3}%
8925 \leavevmode
8926 \pdfstartlink
8927 attr{%
8928 \Hy@setpdfborder
8929 \ifx\@pdfhighlight\@empty
8930 \else
8931 /H\@pdfhighlight
8932 \fi

```

```

8933 \ifx\@runbordercolor\relax
8934 \else
8935 /C[\@runbordercolor]%
8936 \fi
8937 }%
8938 user {%
8939 /Subtype/Link%
8940 \ifHy@pdfa /F 4\fi
8941 /A<<%
8942 /F(\Hy@pstringF)%
8943 /S/Launch%
8944 \Hy@SetNewWindow
8945 \ifx\#3\%
8946 \else
8947 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8948 \fi
8949 \Hy@href@nextactionraw
8950 >>%
8951 }%
8952 \relax
8953 \Hy@colorlink\@runcolor#2%
8954 \close@pdflink
8955 \endgroup
8956 }

```

\@pdfproducer

```

8957 \ifx\@pdfproducer\relax
8958 \begingroup\expandafter\expandafter\endgroup
8959 \expandafter\ifx\csname luatexversion\endcsname\relax
8960 \def\@pdfproducer{pdfTeX}%
8961 \ifx\eTeXversion\@undefined
8962 \else
8963 \ifx\eTeXversion\relax
8964 \else
8965 \ifnum\eTeXversion>0 %
8966 \def\@pdfproducer{pdfTeX}%
8967 \fi
8968 \fi
8969 \fi
8970 \ifx\pdfTeXversion\@undefined
8971 \else
8972 \ifnum\pdfTeXversion<100 %
8973 \edef\@pdfproducer{%
8974 \@pdfproducer
8975 \the\pdfTeXversion.\pdfTeXrevision
8976 }%
8977 \else
8978 \ifnum\pdfTeXversion<130 %
8979 \edef\@pdfproducer{%
8980 \@pdfproducer-
8981 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8982 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
8983 \pdfTeXrevision
8984 }%
8985 \else
8986 \ifnum\pdfTeXversion<140 %
8987 \else

```

```

8988     \def\@pdfproducer{pdfTeX}%
8989     \fi
8990     \edef\@pdfproducer{%
8991       \@pdfproducer-%
8992       \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8993       \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
8994       \pdfTeXrevision
8995     }%
8996     \fi
8997     \fi
8998     \fi
8999     \else
9000     \begingroup
9001       \count@=\luatexversion
9002       \divide\count@ by 100 %
9003       \edef\x{\the\count@}%
9004       \count@=-\x\relax
9005       \multiply\count@ by 100 %
9006       \advance\count@ by \luatexversion
9007       \edef\x{\endgroup
9008         \def\noexpand\@pdfproducer{%
9009           LuaTeX-\x.\the\count@.\luatexrevision
9010         }%
9011       }%
9012       \x
9013     \fi
9014     \fi

```

\PDF@SetupDox

```

9015 \def\PDF@SetupDoc{%
9016   \ifx\@pdfpagescrop\@empty
9017   \else
9018     \edef\process@me{%
9019       \pdfpagesattr={%
9020         /CropBox[\@pdfpagescrop]%
9021         \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
9022         \else
9023           ^^J\the\pdfpagesattr
9024         \fi
9025       }%
9026     }%
9027     \process@me
9028   \fi
9029   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9030   \pdfcatalog{%
9031     /PageMode/\@pdfpagemode
9032     \ifx\@baseurl\@empty
9033     \else
9034       /URI<</Base(\Hy@pstringB)>>%
9035     \fi
9036   }%
9037   \ifx\@pdfstartpage\@empty
9038   \else
9039     \ifx\@pdfstartview\@empty
9040     \else
9041       openaction goto page\@pdfstartpage{\@pdfstartview}%
9042     \fi

```

```

9043 \fi
9044 \edef\Hy@temp{%
9045 \ifHy@toolbar\else /HideToolbar true\fi
9046 \ifHy@menubar\else /HideMenubar true\fi
9047 \ifHy>windowui\else /HideWindowUI true\fi
9048 \ifHy@fitwindow /FitWindow true\fi
9049 \ifHy@centerwindow /CenterWindow true\fi
9050 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9051 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9052 \Hy@UseNameKey{Direction}\@pdfdirection
9053 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9054 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9055 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9056 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9057 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9058 \Hy@UseNameKey{Duplex}\@pdfduplex
9059 \ifx\@pdfpicktraybypdfsize\@empty
9060 \else
9061 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9062 \fi
9063 \ifx\@pdfprintpagerange\@empty
9064 \else
9065 /PrintPageRange\@pdfprintpagerange]%
9066 \fi
9067 \ifx\@pdfnumcopies\@empty
9068 \else
9069 /NumCopies \@pdfnumcopies
9070 \fi
9071 }%
9072 \pdfcatalog{%
9073 \ifx\Hy@temp\@empty
9074 \else
9075 /ViewerPreferences<<\Hy@temp>>%
9076 \fi
9077 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9078 \ifx\@pdflang\@empty
9079 \else
9080 /Lang(\@pdflang)%
9081 \fi
9082 }%
9083 }

```

\PDF@FinishDoc

```

9084 \def\PDF@FinishDoc{%
9085 \pdf@ifdraftmode{ }{%
9086 \Hy@UseMaketitleInfos
9087 \HyInfo@GenerateAddons
9088 \pdfinfo{%
9089 /Author(\@pdfauthor)%
9090 /Title(\@pdftitle)%
9091 /Subject(\@pdfsubject)%
9092 /Creator(\@pdfcreator)%
9093 \ifx\@pdfcreationdate\@empty
9094 \else
9095 /CreationDate(\@pdfcreationdate)%
9096 \fi
9097 \ifx\@pdfmoddate\@empty

```

```

9098 \else
9099 /ModDate(\@pdfmoddate)%
9100 \fi
9101 \ifx\@pdfproducer\relax
9102 \else
9103 /Producer(\@pdfproducer)%
9104 \fi
9105 /Keywords(\@pdfkeywords)%
9106 \ifx\@pdftrapped\@empty
9107 \else
9108 /Trapped/\@pdftrapped
9109 \fi
9110 \HyInfo@Addons
9111 }%
9112 }%
9113 \Hy@DisableOption{pdfauthor}%
9114 \Hy@DisableOption{pdftitle}%
9115 \Hy@DisableOption{pdfsubject}%
9116 \Hy@DisableOption{pdfcreator}%
9117 \Hy@DisableOption{pdfcreationdate}%
9118 \Hy@DisableOption{pdfmoddate}%
9119 \Hy@DisableOption{pdfproducer}%
9120 \Hy@DisableOption{pdfkeywords}%
9121 \Hy@DisableOption{pdftrapped}%
9122 \Hy@DisableOption{pdfinfo}%
9123 }

```

`\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`.

```

9124 \def\hyper@pagetransition{%
9125 \ifx\@pdfpagetransition\relax
9126 \else
9127 \expandafter\Hy@RemoveTransPageAttr
9128 \the\pdfpageattr^^J/Trans{ }>>\END
9129 \ifx\@pdfpagetransition\@empty
9130 \else
9131 \edef\@processme{%
9132 \global\pdfpageattr{%
9133 \the\pdfpageattr
9134 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9135 }%
9136 }%
9137 \@processme
9138 \fi
9139 \fi
9140 }

```

`\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.

```

9141 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9142 \ifx\#2\%
9143 \global\pdfpageattr{#1}%
9144 \else
9145 \Hy@RemoveTransPageAttr#1#4\END

```

```

9146 \fi
9147 }

```

`\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`.

```

9148 \def\hyper@pageduration{%
9149 \ifx\@pdfpageduration\relax
9150 \else
9151 \expandafter
9152 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9153 \ifx\@pdfpageduration\@empty
9154 \else
9155 \edef\@processme{%
9156 \global\pdfpageattr{%
9157 \the\pdfpageattr
9158 ^^J/Dur \@pdfpageduration\space
9159 }%
9160 }%
9161 \@processme
9162 \fi
9163 \fi
9164 }

```

`\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.

```

9165 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9166 \ifx\#2\%
9167 \global\pdfpageattr{#1}%
9168 \else
9169 \Hy@RemoveDurPageAttr#1#4\END
9170 \fi
9171 }

```

`\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).

```

9172 \def\hyper@pagehidden{%
9173 \ifHy@useHidKey
9174 \expandafter
9175 \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9176 \ifHy@pdfpagehidden
9177 \edef\@processme{%
9178 \global\pdfpageattr{%
9179 \the\pdfpageattr
9180 ^^J/Hid true % SPACE
9181 }%
9182 }%
9183 \@processme
9184 \fi
9185 \fi
9186 }

```

`\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.

```

9187 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9188   \ifx\#2\%
9189     \global\pdfpageattr{#1}%
9190   \else
9191     \Hy@RemoveHidPageAttr#1#4\END
9192   \fi
9193 }

9194 \pdf@ifdraftmode{}{%
9195   \g@addto@macro\Hy@EveryPageHook{%
9196     \hyper@pagetransition
9197     \hyper@pageduration
9198     \hyper@pagehidden
9199   }%
9200 }

```

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

```

9201 </pdfTeX>
9202 <*pdfTeX | xetex>
9203 \Hy@AtBeginDocument{%
9204   \ifHy@setpagesize
9205     \expandafter\@firstofone
9206   \else
9207     \expandafter\@gobble
9208   \fi
9209   {%
9210     \@ifclassloaded{seminar}{%
9211 <*pdfTeX>
9212   \setlength{\pdfhorigin}{1truein}%
9213   \setlength{\pdfvorigin}{1truein}%
9214 </pdfTeX>
9215   \ifportrait
9216     \ifdim\paperwidth=\z@
9217     \else
9218       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9219     \fi
9220     \ifdim\paperheight=\z@
9221     \else
9222       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9223     \fi
9224   \else
9225     \ifdim\paperheight=\z@
9226     \else
9227       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9228     \fi
9229     \ifdim\paperwidth=\z@
9230     \else
9231       \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9232     \fi
9233   \fi
9234 }{%
9235   \ltx@ifundefined{stockwidth}{%
9236     \ifdim\paperwidth>\z@
9237       \setlength{\pdfpagewidth}{\paperwidth}%
9238     \fi

```

```

9239     \ifdim\paperheight>\z@
9240         \setlength{\pdfpageheight}{\paperheight}%
9241     \fi
9242 }{%
9243     \ifdim\stockwidth>\z@
9244         \setlength{\pdfpagewidth}{\stockwidth}%
9245     \fi
9246     \ifdim\stockheight>\z@
9247         \setlength{\pdfpageheight}{\stockheight}%
9248     \fi
9249 }%
9250 }%
9251 }%
9252 \Hy@DisableOption{setpagesize}%
9253 }
9254 </pdfTeX | xetex>
9255 <*pdfTeX>
9256 \def\Acrobatmenu#1#2{%
9257     \Hy@Acrobatmenu{#1}{#2}{%
9258         \pdfstartlink
9259         attr{%
9260             \Hy@setpdfborder
9261             \ifx\@pdfhighlight\@empty
9262             \else
9263                 /H\@pdfhighlight
9264             \fi
9265             \ifx\@menubordercolor\relax
9266             \else
9267                 /C[\@menubordercolor]%
9268             \fi
9269         }%
9270         user{%
9271             /Subtype/Link%
9272             \ifHy@pdfa /F 4\fi
9273             /A<<%
9274             /S/Named%
9275             /N/#1%
9276             \Hy@href@nextactionraw
9277             >>%
9278         }%
9279         \relax
9280         \Hy@colorlink\@menucolor#2%
9281     \close@pdflink
9282 }%
9283 }

```

#### 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.

```

9284 \def\Hy@FixNotFirstPage{%
9285     \gdef\Hy@FixNotFirstPage{%

```

```

9286 \setbox\AtBeginShipoutBox=\hbox{%
9287 \copy\AtBeginShipoutBox
9288 }%
9289 }%
9290 }
9291 \AtBeginShipout{\Hy@FixNotFirstPage}
9292 </pdfTeX>

```

### 46.3 hypertext

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.

```

9293 <*hypertext>
9294 \providecommand*{\XR@ext}{dvi}
9295 \def\PDF@FinishDoc{}
9296 \def\PDF@SetupDoc{%
9297 \ifx\@baseurl\@empty
9298 \else
9299 \special{html:<base href="\@baseurl">}%
9300 \fi
9301 }
9302 \Hy@WrapperDef\hyper@anchor#1{%
9303 \Hy@SaveLastskip
9304 \Hy@VerboseAnchor{#1}%
9305 \begingroup
9306 \let\protect=\string
9307 \hyper@chars
9308 \special{html:<a name=%

```

```

9309     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9310 \endgroup
9311 \Hy@activeanchortrue
9312 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9313 \special{html:</a>}%
9314 \Hy@activeanchorfalse
9315 \Hy@RestoreLastskip
9316 }
9317 \Hy@WrapperDef\hyper@anchorstart#1{%
9318 \Hy@SaveLastskip
9319 \Hy@VerboseAnchor{#1}%
9320 \begingroup
9321 \hyper@chars
9322 \special{html:<a name=%
9323     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9324 \endgroup
9325 \Hy@activeanchortrue
9326 }
9327 \def\hyper@anchorend{%
9328 \special{html:</a>}%
9329 \Hy@activeanchorfalse
9330 \Hy@RestoreLastskip
9331 }
9332 \def\@urlltype{url}
9333 \def\hyper@linkstart#1#2{%
9334 \Hy@VerboseLinkStart{#1}{#2}%
9335 \expandafter\Hy@colorlink\csname @#1color\endcsname
9336 \def\Hy@tempa{#1}%
9337 \ifx\Hy@tempa\@urlltype
9338 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9339 \else
9340 \begingroup
9341 \hyper@chars
9342 \special{html:<a href=%
9343     \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>}%
9344 \endgroup
9345 \fi
9346 }
9347 \def\hyper@linkend{%
9348 \special{html:</a>}%
9349 \Hy@endcolorlink
9350 }
9351 \def\hyper@linkfile#1#2#3{%
9352 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9353 }
9354 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link \special, we need to get its height; ask me why L<sup>A</sup>T<sub>E</sub>X constructs make this totally foul up, and make us revert to basic T<sub>E</sub>X. I do not know.

```

9355 \leavevmode
9356 \ifHy@raiselinks
9357 \Hy@SaveSpaceFactor
9358 \Hy@SaveSavedSpaceFactor
9359 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9360 \Hy@RestoreSavedSpaceFactor
9361 \@linkdim\dp\@tempboxa
9362 \lower\@linkdim\hbox{%
9363 \hyper@chars

```

```

9364 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9365 }%
9366 \Hy@colorlink\@urlcolor
9367 \Hy@RestoreSpaceFactor
9368 #1%
9369 \Hy@SaveSpaceFactor
9370 \@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).

```

9371 \advance\@linkdim by -6.5\p@
9372 \raise\@linkdim\hbox{\special{html:</a>}}%
9373 \Hy@endcolorlink
9374 \Hy@RestoreSpaceFactor
9375 \else
9376 \begingroup
9377 \hyper@chars
9378 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9379 \Hy@colorlink\@urlcolor#1%
9380 \special{html:</a>}%
9381 \Hy@endcolorlink
9382 \endgroup
9383 \fi
9384 }

```

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

```

9385 \def\hyper@link#1#2#3{%
9386 \Hy@VerboseLinkStart{#1}{#2}%
9387 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
9388 }
9389 \def\hyper@image#1#2{%
9390 \begingroup
9391 \hyper@chars
9392 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9393 \endgroup
9394 }
9395 \</hypertex>
9396 \<*dviwindo>

```

## 46.4 dviwindo

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

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

```

9397 \providecommand*\XR@ext{\dvi}
9398 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9399 \Hy@WrapperDef\hyper@anchor#1{%
9400 \Hy@SaveLastskip

```

```

9401 \Hy@VerboseAnchor{#1}%
9402 \begingroup
9403   \let\protect=\string
9404   \special{mark: #1}%
9405 \endgroup
9406 \Hy@activeanchortrue
9407 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9408 \Hy@activeanchorfalse
9409 \Hy@RestoreLastskip
9410 }
9411 \Hy@WrapperDef\hyper@anchorstart#1{%
9412   \Hy@SaveLastskip
9413   \Hy@VerboseAnchor{#1}%
9414   \special{mark: #1}%
9415   \Hy@activeanchortrue
9416 }
9417 \def\hyper@anchorend{%
9418   \Hy@activeanchorfalse
9419   \Hy@RestoreLastskip
9420 }
9421 \def\hyper@linkstart#1#2{%
9422   \Hy@VerboseLinkStart{#1}{#2}%
9423   \expandafter\Hy@colorlink\csname @#1color\endcsname
9424   \special{button: %
9425     10000000 %
9426     \number\baselineskip\space
9427     #2%
9428   }%
9429 }
9430 \def\hyper@linkend{%
9431   \Hy@endcolorlink
9432 }
9433 \def\hyper@link#1#2#3{%
9434   \Hy@VerboseLinkStart{#1}{#2}%
9435   \leavevmode
9436   \ifHy@raiselinks
9437     \Hy@SaveSpaceFactor
9438     \Hy@SaveSavedSpaceFactor
9439     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9440     \Hy@RestoreSavedSpaceFactor
9441     \@linkdim\dp\@tempboxa
9442     \lower\@linkdim\hbox{%
9443       \special{button: %
9444         \number\wd\@tempboxa\space
9445         \number\ht\@tempboxa\space
9446         #2%
9447       }%
9448       \expandafter\Hy@colorlink\csname @#1color\endcsname
9449       \Hy@RestoreSpaceFactor
9450       #3%
9451       \Hy@SaveSpaceFactor
9452       \Hy@endcolorlink
9453     }%
9454     \@linkdim\ht\@tempboxa
9455     \advance\@linkdim by -6.5\p@
9456     \raise\@linkdim\hbox{}%
9457     \Hy@RestoreSpaceFactor

```

```

9458 \else
9459 \special{button: %
9460 \number\wd\@tempboxa\space
9461 \number\ht\@tempboxa\space
9462 #2%
9463 }%
9464 \expandafter\Hy@colorlink\csname @#1color\endcsname
9465 #3%
9466 \Hy@endcolorlink
9467 \fi
9468 }
9469 \def\hyper@linkurl#1#2{%
9470 \begingroup
9471 \hyper@chars
9472 \leavevmode
9473 \ifHy@raiselinks
9474 \Hy@SaveSpaceFactor
9475 \Hy@SaveSavedSpaceFactor
9476 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9477 \Hy@RestoreSavedSpaceFactor
9478 \@linkdim\dp\@tempboxa
9479 \lower\@linkdim\hbox{%
9480 \special{button: %
9481 \number\wd\@tempboxa\space
9482 \number\ht\@tempboxa\space
9483 launch: \wwwbrowser\space
9484 #2%
9485 }%
9486 \Hy@colorlink\@urlcolor
9487 \Hy@RestoreSpaceFactor
9488 #1%
9489 \Hy@SaveSpaceFactor
9490 \Hy@endcolorlink
9491 }%
9492 \@linkdim\ht\@tempboxa
9493 \advance\@linkdim by -6.5\p@
9494 \raise\@linkdim\hbox{%
9495 \Hy@RestoreSpaceFactor
9496 \else
9497 \special{button: %
9498 \number\wd\@tempboxa\space
9499 \number\ht\@tempboxa\space
9500 launch: \wwwbrowser\space
9501 #2%
9502 }%
9503 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9504 \fi
9505 \endgroup
9506 }
9507 \def\hyper@linkfile#1#2#3{%
9508 \begingroup
9509 \hyper@chars
9510 \leavevmode
9511 \ifHy@raiselinks
9512 \Hy@SaveSpaceFactor
9513 \Hy@SaveSavedSpaceFactor
9514 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%

```

```

9515 \Hy@RestoreSavedSpaceFactor
9516 \@linkdim\dp\@tempboxa
9517 \lower\@linkdim\hbox{%
9518 \special{button: %
9519 \number\wd\@tempboxa\space
9520 \number\ht\@tempboxa\space
9521 #3,%
9522 file: #2%
9523 }%
9524 \Hy@colorlink\@filecolor
9525 \Hy@RestoreSpaceFactor
9526 #1%
9527 \Hy@SaveSpaceFactor
9528 \Hy@endcolorlink
9529 }%
9530 \@linkdim\ht\@tempboxa
9531 \advance\@linkdim by -6.5\p@
9532 \raise\@linkdim\hbox{}%
9533 \Hy@RestoreSpaceFactor
9534 \else
9535 \special{button: %
9536 \number\wd\@tempboxa\space
9537 \number\ht\@tempboxa\space
9538 #3,%
9539 file: #2%
9540 }%
9541 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
9542 \fi
9543 \endgroup
9544 }
9545 \ifx\@pdfproducer\relax
9546 \def\@pdfproducer{dviwindo + Distiller}%
9547 \fi
9548 \HyInfo@AddonUnsupportedtrue
9549 \def\PDF@FinishDoc{%
9550 \Hy@UseMaketitleInfos
9551 \HyInfo@TrappedUnsupported
9552 \special{PDF: Keywords \@pdfkeywords}%
9553 \special{PDF: Title \@pdftitle}%
9554 \special{PDF: Creator \@pdfcreator}%
9555 \ifx\@pdfcreationdate\@empty
9556 \else
9557 \special{PDF: CreationDate \@pdfcreationdate}%
9558 \fi
9559 \ifx\@pdfmoddate\@empty
9560 \else
9561 \special{PDF: ModDate \@pdfmoddate}%
9562 \fi
9563 \special{PDF: Author \@pdfauthor}%
9564 \ifx\@pdfproducer\relax
9565 \else
9566 \special{PDF: Producer \@pdfproducer}%
9567 \fi
9568 \special{PDF: Subject \@pdfsubject}%
9569 \Hy@DisableOption{pdfauthor}%
9570 \Hy@DisableOption{pdftitle}%
9571 \Hy@DisableOption{pdfsubject}%

```

```

9572 \Hy@DisableOption{pdfcreator}%
9573 \Hy@DisableOption{pdfcreationdate}%
9574 \Hy@DisableOption{pdfmoddate}%
9575 \Hy@DisableOption{pdfproducer}%
9576 \Hy@DisableOption{pdfkeywords}%
9577 \Hy@DisableOption{pdftrapped}%
9578 \Hy@DisableOption{pdfinfo}%
9579 }
9580 \def\PDF@SetupDoc{%
9581 \ifx\@baseurl\@empty
9582 \else
9583 \special{PDF: Base \@baseurl}%
9584 \fi
9585 \ifx\@pdfpagescrop\@empty\else
9586 \special{PDF: BBox \@pdfpagescrop}%
9587 \fi
9588 \def\Hy@temp{%
9589 \ifx\@pdfstartpage\@empty
9590 \else
9591 \ifx\@pdfstartview\@empty
9592 \else
9593 \edef\Hy@temp{%
9594 ,Page=\@pdfstartpage
9595 ,View=\@pdfstartview
9596 }%
9597 \fi
9598 \fi
9599 \edef\Hy@temp{%
9600 \noexpand\pdfmark{%
9601 pdfmark=/DOCVIEW,%
9602 PageMode=/\@pdfpagemode
9603 \Hy@temp
9604 }%
9605 }%
9606 \Hy@temp
9607 \ifx\@pdfpagescrop\@empty
9608 \else
9609 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9610 \fi
9611 \edef\Hy@temp{%
9612 \ifHy@toolbar\else /HideToolbar true\fi
9613 \ifHy@menubar\else /HideMenubar true\fi
9614 \ifHy>windowui\else /HideWindowUI true\fi
9615 \ifHy@fitwindow /FitWindow true\fi
9616 \ifHy@centerwindow /CenterWindow true\fi
9617 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9618 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9619 \Hy@UseNameKey{Direction}\@pdfdirection
9620 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9621 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9622 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9623 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9624 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9625 \Hy@UseNameKey{Duplex}\@pdfduplex
9626 \ifx\@pdfpicktraybypdfsize\@empty
9627 \else
9628 /PickTrayByPDFSize \@pdfpicktraybypdfsize

```

```

9629 \fi
9630 \ifx\@pdfprintpagerange\@empty
9631 \else
9632   /PrintPageRange[\@pdfprintpagerange]%
9633 \fi
9634 \ifx\@pdfnumcopies\@empty
9635 \else
9636   /NumCopies \@pdfnumcopies
9637 \fi
9638 }%
9639 \pdfmark{pdfmark=/PUT,%
9640   Raw={%
9641     \string{Catalog\string}<<%
9642     \ifx\Hy@temp\@empty
9643     \else
9644       /ViewerPreferences<<\Hy@temp>>%
9645     \fi
9646     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9647     \ifx\@pdflang\@empty
9648     \else
9649       /Lang(\@pdflang)%
9650     \fi
9651     >>%
9652   }%
9653 }%
9654 }
9655 </dviwindo>
9656 <*dvipdfm | xetex>

```

## 46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

9657 \providecommand*{\XR@ext}{pdf}
9658 \Hy@setbreaklinks{true}
9659 \def\HyPat@ObjRef{%
9660   @[\ ]+}%
9661 }
9662 \newsavebox{\pdfm@box}
9663 \def\@pdfm@mark#1{\special{pdf:#1}}
9664 \Hy@WrapperDef\@pdfm@dest#1{%
9665   \Hy@SaveLastskip
9666   \Hy@VerboseAnchor{#1}%
9667   \begingroup
9668     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9669     \def\x{XYZ}%
9670     \ifx\x\@pdfview
9671       \def\x{XYZ @xpos @ypos null}%
9672     \else
9673       \def\x{FitH}%
9674       \ifx\x\@pdfview
9675         \def\x{FitH @ypos}%
9676       \else
9677         \def\x{FitBH}%
9678         \ifx\x\@pdfview
9679           \def\x{FitBH @ypos}%
9680         \else
9681           \def\x{FitV}%

```

```

9682 \ifx\x\@pdfview
9683 \def\x{FitV @xpos}%
9684 \else
9685 \def\x{FitBV}%
9686 \ifx\x\@pdfview
9687 \def\x{FitBV @xpos}%
9688 \else
9689 \def\x{Fit}%
9690 \ifx\x\@pdfview
9691 \let\x\@pdfview
9692 \else
9693 \def\x{FitB}%
9694 \ifx\x\@pdfview
9695 \let\x\@pdfview
9696 \else
9697 \def\x{FitR}%
9698 \ifx\x\@pdfview
9699 \Hy@Warning{'pdfview=FitR' is not supported}%
9700 \def\x{XYZ @xpos @ypos null}%
9701 \else
9702 \@onelevel@sanitize\@pdfview
9703 \Hy@Warning{%
9704 Unknown value '\@pdfview' for pdfview%
9705 }%
9706 \def\x{XYZ @xpos @ypos null}%
9707 \fi
9708 \fi
9709 \fi
9710 \fi
9711 \fi
9712 \fi
9713 \fi
9714 \fi
9715 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9716 \endgroup
9717 \Hy@RestoreLastskip
9718 }
9719 \providecommand*\@pdfview{XYZ}
9720 \providecommand*\@pdfborder{0 0 1}
9721 \providecommand*\@pdfborderstyle{}
9722 \def\hyper@anchor#1{%
9723 \@pdfm@dest{#1}%
9724 }
9725 \def\hyper@anchorstart#1{%
9726 \Hy@activeanchortrue
9727 \@pdfm@dest{#1}%
9728 }
9729 \def\hyper@anchorend{%
9730 \Hy@activeanchorfalse
9731 }
9732 \newcounter{Hy@AnnotLevel}
9733 \ifHy@ocgcolorlinks
9734 \def\OBJ@OCG@view{@OCG@view}%
9735 \@pdfm@mark{%
9736 obj \OBJ@OCG@view <<%
9737 /Type/OCG%
9738 /Name(View)%

```

```

9739      /Usage<<%
9740      /Print<<%
9741      /PrintState/OFF%
9742      >>%
9743      /View<<%
9744      /ViewState/ON%
9745      >>%
9746      >>%
9747      >>%
9748      }%
9749      \@pdfm@mark{close \OBJ@OCG@view}%
9750      \def\OBJ@OCG@print{\@OCG@print}%
9751      \@pdfm@mark{%
9752      obj \OBJ@OCG@print <<%
9753      /Type/OCG%
9754      /Name(Print)%
9755      /Usage<<%
9756      /Print<<%
9757      /PrintState/ON%
9758      >>%
9759      /View<<%
9760      /ViewState/OFF%
9761      >>%
9762      >>%
9763      >>%
9764      }%
9765      \@pdfm@mark{close \OBJ@OCG@print}%
9766      \def\OBJ@OCGs{\@OCGs}%
9767      \@pdfm@mark{%
9768      obj \OBJ@OCGs [%
9769      \OBJ@OCG@view\space\OBJ@OCG@print
9770      ]%
9771      }%
9772      \@pdfm@mark{close \OBJ@OCGs}%
9773      \@pdfm@mark{%
9774      put @catalog <<%
9775      /OCProperties<<%
9776      /OCGs \OBJ@OCGs
9777      /D<<%
9778      /OFF[\OBJ@OCG@print]%
9779      /AS[%
9780      <<%
9781      /Event/View%
9782      /OCGs \OBJ@OCGs
9783      /Category[/View]%
9784      >>%
9785      <<%
9786      /Event/Print%
9787      /OCGs \OBJ@OCGs
9788      /Category[/Print]%
9789      >>%
9790      <<%
9791      /Event/Export%
9792      /OCGs \OBJ@OCGs
9793      /Category[/Print]%
9794      >>%
9795      ]%

```

```

9796     >>%
9797     >>%
9798     >>%
9799 }%
9800 \AtBeginShipout{%
9801   \setbox\AtBeginShipoutBox=\hbox{%
9802     \copy\AtBeginShipoutBox
9803     \@pdfm@mark{%
9804       put @resources <<%
9805         /Properties<<%
9806         /OCView \OBJ@OCG@view
9807         /OCPrint \OBJ@OCG@print
9808       >>%
9809     >>%
9810   }%
9811 }%
9812 }%
9813 \Hy@AtBeginDocument{%
9814   \def\Hy@colorlink#1{%
9815     \begingroup
9816     \ifHy@ocgcolorlinks
9817       \def\Hy@ocgcolor{#1}%
9818       \setbox0=\hbox\bgroup\color@begingroup
9819     \else
9820       \HyColor@UseColor#1%
9821     \fi
9822   }%
9823   \def\Hy@endcolorlink{%
9824     \ifHy@ocgcolorlinks
9825       \color@endgroup\egroup
9826     \mbox{%
9827       \@pdfm@mark{content /OC/OCPrint BDC}%
9828       \rlap{\copy0}%
9829       \@pdfm@mark{content EMC/OC/OCView BDC}%
9830     \begingroup
9831     \expandafter\HyColor@UseColor\Hy@ocgcolor
9832     \box0 %
9833     \endgroup
9834     \@pdfm@mark{content EMC}%
9835   }%
9836   \fi
9837   \endgroup
9838 }%
9839 }%
9840 \else
9841   \Hy@DisableOption{ocgcolorlinks}%
9842 \fi

9843 \def\Hy@BeginAnnot#1{%
9844   \stepcounter{Hy@AnnotLevel}%
9845   \ifnum\value{Hy@AnnotLevel}=\@ne
9846     #1%
9847   \fi
9848 }
9849 \def\Hy@endAnnot{%
9850   \ifnum\value{Hy@AnnotLevel}=\@ne
9851     \Hy@endcolorlink
9852     \@pdfm@mark{eann}%

```

```

9853 \fi
9854 \addtocounter{Hy@AnnotLevel}\m@ne
9855 }

9856 \def\Hy@undefinedname{UNDEFINED}
9857 \def\hyper@linkstart#1#2{%
9858   \Hy@VerboseLinkStart{#1}{#2}%
9859   \Hy@BeginAnnot{%
9860     \protected@edef\Hy@testname{#2}%
9861     \ifx\Hy@testname\@empty
9862       \Hy@Warning{%
9863         Empty destination name,\MessageBreak
9864         using '\Hy@undefinedname'%
9865       }%
9866       \let\Hy@testname\Hy@undefinedname
9867     \else
9868       \Hy@pstringdef\Hy@testname{%
9869         \expandafter\HyperDestNameFilter\expandafter{%
9870           \Hy@testname
9871         }%
9872       }%
9873     \fi
9874     \@pdfm@mark{%
9875       bann<<%
9876       /Type/Annot%
9877       /Subtype/Link%
9878       \ifHy@pdfa /F 4\fi
9879       \Hy@setpdfborder
9880       \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9881       \else
9882         /C[\csname @#1bordercolor\endcsname]%
9883       \fi
9884       /A<<%
9885       /S/GoTo%
9886       /D(\Hy@testname)%
9887       \Hy@href@nextactionraw
9888       >>%
9889       >>%
9890     }%
9891     \expandafter\Hy@colorlink\csname @#1color\endcsname
9892   }%
9893 }

9894 \def\hyper@linkend{\Hy@EndAnnot}%
9895 \def\hyper@link#1#2#3{%
9896   \hyper@linkstart{#1}{#2}#3\hyper@linkend
9897 }

9898 \def\hyper@linkfile#1#2#3{%
9899   \leavevmode
9900   \Hy@BeginAnnot{%
9901     \def\Hy@pstringF{#2}%
9902     \Hy@CleanupFile\Hy@pstringF
9903     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9904     \Hy@pstringdef\Hy@pstringD{#3}%
9905     \Hy@MakeRemoteAction
9906     \@pdfm@mark{%
9907       bann<<%
9908       /Type/Annot%
9909       /Subtype/Link%

```

```

9910     \ifHy@pdfa /F 4\fi
9911     \Hy@setpdfborder
9912     \ifx\@filebordercolor\relax
9913     \else
9914         /C[\@filebordercolor]%
9915     \fi
9916     /A<<%
9917     /S/GoToR%
9918     /F(\Hy@pstringF)%
9919     /D%
9920     \ifx\#3\%
9921         [\Hy@href@page\@pdfremotestartview]%
9922     \else
9923         (\Hy@pstringD)%
9924     \fi
9925     \Hy@SetNewWindow
9926     \Hy@href@nextactionraw
9927     >>%
9928     >>%
9929     }%
9930     \Hy@colorlink\@filecolor
9931     }%
9932     #1%
9933     \Hy@EndAnnot
9934 }
9935 \def\hyper@linkurl#1#2{%
9936     \leavevmode
9937     \Hy@BeginAnnot{%
9938         \Hy@pstringdef\Hy@pstringURI{#2}%
9939         \@pdfm@mark{%
9940             bann<<%
9941             /Type/Annot%
9942             /Subtype/Link%
9943             \ifHy@pdfa /F 4\fi
9944             \Hy@setpdfborder
9945             \ifx\@urlbordercolor\relax
9946             \else
9947                 /C[\@urlbordercolor]%
9948             \fi
9949             /A<<%
9950             /S/URI%
9951             /URI(\Hy@pstringURI)%
9952             \ifHy@href@ismap
9953                 /IsMap true%
9954             \fi
9955             \Hy@href@nextactionraw
9956             >>%
9957             >>%
9958             }%
9959             \Hy@colorlink\@urlcolor
9960             }%
9961             #1%
9962             \Hy@EndAnnot
9963         }
9964     \def\Acrobatmenu#1#2{%
9965         \Hy@Acrobatmenu{#1}{#2}{%
9966             \Hy@BeginAnnot{%

```

```

9967 \pdfmark{
9968   bann<<
9969   /Type/Annot
9970   /Subtype/Link
9971   \ifHy@pdfa /F 4\fi
9972   /A<<
9973   /S/Named
9974   /N/#1
9975   \Hy@href@nextactionraw
9976   >>
9977   \Hy@setpdfborder
9978   \ifx\@menubordercolor\relax
9979   \relax
9980   /C[\@menubordercolor]
9981   \fi
9982   >>
9983 }
9984 \Hy@colorlink\@menucolor
9985 }
9986 #2
9987 \Hy@endannot
9988 }
9989 }
9990 \ifx\@pdfproducer\relax
9991 \def\@pdfproducer{dvipdfm}

```

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

```

9992 \begingroup\expandafter\expandafter\expandafter\endgroup
9993 \expandafter\ifx\csname XeTeXversion\endcsname\relax
9994 \else
9995 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}
9996 \fi
9997 \fi
9998 \def\PDF@FinishDoc{
9999 \Hy@UseMaketitleInfos
10000 \HyInfo@GenerateAddons
10001 \pdfmark{
10002   docinfo<<
10003   /Title(\pdftitle)
10004   /Subject(\pdfsubject)
10005   /Creator(\pdfcreator)
10006   \ifx\pdfcreationdate\empty
10007   \else
10008   /CreationDate(\pdfcreationdate)
10009   \fi
10010   \ifx\pdfmoddate\empty
10011   \else
10012   /ModDate(\pdfmoddate)
10013   \fi
10014   /Author(\pdfauthor)
10015   \ifx\@pdfproducer\relax
10016   \else
10017   /Producer(\pdfproducer)
10018   \fi
10019   /Keywords(\pdfkeywords)
10020   \ifx\pdftrapped\empty
10021   \else
10022   /Trapped/\pdftrapped

```

```

10023     \fi
10024     \HyInfo@Addons
10025     >>%
10026 }%
10027 \Hy@DisableOption{pdfauthor}%
10028 \Hy@DisableOption{pdftitle}%
10029 \Hy@DisableOption{pdfsubject}%
10030 \Hy@DisableOption{pdfcreator}%
10031 \Hy@DisableOption{pdfcreationdate}%
10032 \Hy@DisableOption{pdfmoddate}%
10033 \Hy@DisableOption{pdfproducer}%
10034 \Hy@DisableOption{pdfkeywords}%
10035 \Hy@DisableOption{pdftrapped}%
10036 \Hy@DisableOption{pdfinfo}%
10037 }

10038 \def\PDF@SetupDoc{%
10039 \edef\Hy@temp{%
10040   \ifHy@toolbar\else /HideToolbar true\fi
10041   \ifHy@menubar\else /HideMenubar true\fi
10042   \ifHy>windowui\else /HideWindowUI true\fi
10043   \ifHy@fitwindow /FitWindow true\fi
10044   \ifHy@centerwindow /CenterWindow true\fi
10045   \ifHy@displaydoctitle /DisplayDocTitle true\fi
10046   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10047   \Hy@UseNameKey{Direction}\@pdfdirection
10048   \Hy@UseNameKey{ViewArea}\@pdfviewarea
10049   \Hy@UseNameKey{ViewClip}\@pdfviewclip
10050   \Hy@UseNameKey{PrintArea}\@pdfprintarea
10051   \Hy@UseNameKey{PrintClip}\@pdfprintclip
10052   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10053   \Hy@UseNameKey{Duplex}\@pdfduplex
10054   \ifx\@pdfpicktraybypdfsize\@empty
10055   \else
10056     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10057   \fi
10058   \ifx\@pdfprintpagerange\@empty
10059   \else
10060     /PrintPageRange[\@pdfprintpagerange]%
10061   \fi
10062   \ifx\@pdfnumcopies\@empty
10063   \else
10064     /NumCopies \@pdfnumcopies
10065   \fi
10066 }%
10067 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10068 \@pdfm@mark{%
10069   docview<<%
10070     \ifx\@pdfstartpage\@empty
10071     \else
10072       \ifx\@pdfstartview\@empty
10073       \else
10074         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10075       \fi
10076     \fi
10077     \ifx\@baseurl\@empty
10078     \else
10079       /URI<</Base(\Hy@pstringB)>>%

```

```

10080 \fi
10081 /PageMode/\@pdfpagemode
10082 \ifx\Hy@temp\@empty
10083 \else
10084 /ViewerPreferences<<\Hy@temp>>%
10085 \fi
10086 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10087 \ifx\@pdflang\@empty
10088 \else
10089 /Lang(\@pdflang)%
10090 \fi
10091 >>%
10092 }%
10093 \ifx\@pdfpagescrop\@empty
10094 \else
10095 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10096 \fi
10097 }
10098 </dvipdfm | xetex>

```

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

```

10099 <*dvipdfm>
10100 \AtBeginShipoutFirst{%
10101 \ifHy@setpagesize
10102 \begingroup
10103 \@ifundefined{stockwidth}{%
10104 \ifdim\paperwidth>\z@
10105 \ifdim\paperheight>\z@
10106 \special{papersize=\the\paperwidth,\the\paperheight}%
10107 \fi
10108 \fi
10109 }{%
10110 \ifdim\stockwidth>\z@
10111 \ifdim\stockheight>\z@
10112 \special{papersize=\the\stockwidth,\the\stockheight}%
10113 \fi
10114 \fi
10115 }%
10116 \endgroup
10117 \fi
10118 \Hy@DisableOption{setpagesize}%
10119 }
10120 </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.

```

10121 <*vtexhtml>
10122 \providecommand*\XR@ext\{htm}
10123 \RequirePackage{vtexhtml}
10124 \newif\if@Localurl
10125 \def\PDF@FinishDoc{}
10126 \def\PDF@SetupDoc{%
10127 \ifx\@baseurl\@empty
10128 \else

```

```

10129 \special{!direct <base href="\@baseurl">}%
10130 \fi
10131 }
10132 \def\@urltype{url}
10133 \def\hyper@link#1#2#3{%
10134 \Hy@VerboseLinkStart{#1}{#2}%
10135 \leavevmode
10136 \special{!direct <a href=%
10137 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10138 #3%
10139 \special{!direct </a>}}%
10140 }
10141 \def\hyper@linkurl#1#2{%
10142 \begingroup
10143 \hyper@chars
10144 \leavevmode
10145 \MathBSuppress=1\relax
10146 \special{!direct <a href=%
10147 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10148 #1%
10149 \MathBSuppress=0\relax
10150 \special{!direct </a>}}%
10151 \endgroup
10152 }
10153 \def\hyper@linkfile#1#2#3{%
10154 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\\#3\fi}%
10155 }
10156 \def\hyper@linkstart#1#2{%
10157 \Hy@VerboseLinkStart{#1}{#2}%
10158 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10159 \@Localurltrue
10160 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10161 \else
10162 \@Localurlfalse
10163 \begingroup
10164 \hyper@chars
10165 \special{!aref \HyperDestNameFilter{#2}}%
10166 \endgroup
10167 \fi
10168 }
10169 \def\hyper@linkend{%
10170 \if@Localurl
10171 \special{!endaref}%
10172 \else
10173 \special{!direct </a>}}%
10174 \fi
10175 }
10176 \Hy@WrapperDef\hyper@anchorstart#1{%
10177 \Hy@SaveLastskip
10178 \Hy@VerboseAnchor{#1}%
10179 \begingroup
10180 \hyper@chars
10181 \special{!aname #1}%
10182 \special{!direct <a name=%
10183 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10184 \endgroup
10185 \Hy@activeanchortrue

```

```

10186 }
10187 \def\hyper@anchorend{%
10188   \special{!direct </a>}%
10189   \Hy@activeanchorfalse
10190   \Hy@RestoreLastskip
10191 }
10192 \Hy@WrapperDef\hyper@anchor#1{%
10193   \Hy@SaveLastskip
10194   \Hy@VerboseAnchor{#1}%
10195   \begingroup
10196     \let\protect=\string
10197     \hyper@chars
10198     \leavevmode
10199     \special{!aname #1}%
10200     \special{!direct <a name=%
10201       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10202   \endgroup
10203   \Hy@activeanchortrue
10204   \bgroup\anchor@spot\egroup
10205   \special{!direct </a>}%
10206   \Hy@activeanchorfalse
10207   \Hy@RestoreLastskip
10208 }
10209 \def\@Form[#1]{%
10210   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10211 }
10212 \def\@endForm{}
10213 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10214   \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10215 }
10216 \def\@TextField[#1]#2{% parameters, label
10217   \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10218 }
10219 \def\@CheckBox[#1]#2{% parameters, label
10220   \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10221 }
10222 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10223   \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10224 }
10225 \def\@PushButton[#1]#2{% parameters, label
10226   \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10227 }
10228 \def\@Reset[#1]#2{%
10229   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10230 }
10231 \def\@Submit[#1]#2{%
10232   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10233 }
10234 </vtexhtml>
10235 < *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.
10236 \ifx\mediaheight\@undefined
10237 \else
10238   \ifx\mediaheight\relax

```

```

10239 \else
10240   \ifHy@setpagesize
10241     \providecommand*\VTeXInitMediaSize{%
10242       \ltx@ifundefined{stockwidth}{%
10243         \ifdim\paperheight>0pt %
10244           \setlength\mediaheight\paperheight
10245         \fi
10246         \ifdim\paperheight>0pt %
10247           \setlength\mediawidth\paperwidth
10248         \fi
10249       }{%
10250         \ifdim\stockheight>0pt %
10251           \setlength\mediaheight\stockheight
10252         \fi
10253         \ifdim\stockwidth>0pt %
10254           \setlength\mediawidth\stockwidth
10255         \fi
10256       }%
10257     }%
10258   \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10259 \fi
10260 \Hy@DisableOption{setpagesize}%
10261 \fi
10262 \fi

```

Older versions of VTeX require xyz in lower case.

```

10263 \providecommand*\@pdfview{xyz}
10264 \providecommand*\@pdfborder{0 0 1}
10265 \providecommand*\@pdfborderstyle{}
10266 \let\CurrentBorderColor\@linkbordercolor
10267 \Hy@WrapperDef\hyper@anchor#1{%
10268   \Hy@SaveLastskip
10269   \Hy@VerboseAnchor{#1}%
10270   \begingroup
10271     \let\protect=\string
10272     \hyper@chars
10273     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10274   \endgroup
10275   \Hy@activeanchortrue
10276   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10277   \Hy@activeanchorfalse
10278   \Hy@RestoreLastskip
10279 }
10280 \Hy@WrapperDef\hyper@anchorstart#1{%
10281   \Hy@SaveLastskip
10282   \Hy@VerboseAnchor{#1}%
10283   \begingroup
10284     \hyper@chars
10285     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10286   \endgroup
10287   \Hy@activeanchortrue
10288 }
10289 \def\hyper@anchorend{%
10290   \Hy@activeanchorfalse
10291   \Hy@RestoreLastskip
10292 }
10293 \def\@urltype{url}
10294 \def\Hy@undefinedname{UNDEFINED}

```

```

10295 \def\hyper@linkstart#1#2{%
10296   \Hy@VerboseLinkStart{#1}{#2}%
10297   \Hy@pstringdef\Hy@pstringURI{#2}%
10298   \expandafter\Hy@colorlink\csname @#1color\endcsname
10299   \ltx@ifundefined{@#1bordercolor}{%
10300     \let\CurrentBorderColor\relax
10301   }{%
10302     \edef\CurrentBorderColor{%
10303       \csname @#1bordercolor\endcsname
10304     }%
10305   }%
10306   \def\Hy@tempa{#1}%
10307   \ifx\Hy@tempa\@uratype
10308     \special{!%
10309       aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10310         \ifHy@href@ismap
10311           /IsMap true%
10312         \fi
10313         \Hy@href@nextactionraw
10314       >;%
10315       a=<%
10316         \ifHy@pdfa /F 4\fi
10317         \Hy@setpdfborder
10318         \ifx\CurrentBorderColor\relax
10319           \else
10320             /C [\CurrentBorderColor]%
10321           \fi
10322         >%
10323       }%
10324     \else
10325       \protected@edef\Hy@testname{#2}%
10326       \ifx\Hy@testname\@empty
10327         \Hy@Warning{%
10328           Empty destination name,\MessageBreak
10329           using '\Hy@undefinedname'%
10330         }%
10331         \let\Hy@testname\Hy@undefinedname
10332       \fi
10333       \special{!%
10334         aref \expandafter\HyperDestNameFilter
10335           \expandafter{\Hy@testname};%
10336         a=<%
10337           \ifHy@pdfa /F 4\fi
10338           \Hy@setpdfborder
10339           \ifx\CurrentBorderColor\relax
10340             \else
10341               /C [\CurrentBorderColor]%
10342             \fi
10343           >%
10344         }%
10345       \fi
10346     }
10347   \def\hyper@linkend{%
10348     \special{!endaref}%
10349     \Hy@endcolorlink
10350   }
10351   \def\hyper@linkfile#1#2#3{%

```

```

10352 \leavevmode
10353 \def\Hy@pstringF{#2}%
10354 \Hy@CleanupFile\Hy@pstringF
10355 \special{!%
10356   aref <%
10357   \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
10358   f=\Hy@pstringF>#3;%
10359   a=<%
10360     \ifHy@pdfa /F 4\fi
10361     \Hy@setpdfborder
10362     \ifx\@filebordercolor\relax
10363     \else
10364       /C [\@filebordercolor]%
10365     \fi
10366   >%
10367 }%
10368 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
10369 \special{!endaref}%
10370 }
10371 \def\hyper@linkurl#1#2{%
10372 \begingroup
10373 \Hy@pstringdef\Hy@pstringURI{#2}%
10374 \hyper@chars
10375 \leavevmode
10376 \special{!%
10377   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10378   \ifHy@href@ismap
10379     /IsMap true%
10380   \fi
10381   \Hy@href@nextactionraw
10382   >;%
10383   a=<%
10384     \ifHy@pdfa /F 4\fi
10385     \Hy@setpdfborder
10386     \ifx\@urlbordercolor\relax
10387     \else
10388       /C [\@urlbordercolor]%
10389     \fi
10390   >%
10391 }%
10392 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10393 \special{!endaref}%
10394 \endgroup
10395 }
10396 \def\hyper@link#1#2#3{%
10397 \Hy@VerboseLinkStart{#1}{#2}%
10398 \ltx@ifundefined{@#1bordercolor}{%
10399   \let\CurrentBorderColor\relax
10400 }{%
10401   \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10402 }%
10403 \leavevmode
10404 \protected@edef\Hy@testname{#2}%
10405 \ifx\Hy@testname\@empty
10406   \Hy@Warning{%
10407     Empty destination name,\MessageBreak
10408     using '\Hy@undefinedname'%

```

```

10409 }%
10410 \let\Hy@testname\Hy@undefinedname
10411 \fi
10412 \special{!%
10413   aref \expandafter\HyperDestNameFilter
10414     \expandafter{\Hy@testname};%
10415   a=<%
10416     \ifHy@pdfa /F 4\fi
10417     \Hy@setpdfborder
10418     \ifx\CurrentBorderColor\relax
10419     \else
10420       /C [\CurrentBorderColor]%
10421     \fi
10422   >%
10423 }%
10424 \expandafter
10425 \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
10426 \special{!endaref}%
10427 }
10428 \def\hyper@image#1#2{%
10429 \hyper@linkurl{#2}{#1}%
10430 }
10431 \def\@hyper@launch run:#1\#2#3{%
10432 \Hy@pstringdef\Hy@pstringF{#1}%
10433 \Hy@pstringdef\Hy@pstringP{#3}%
10434 \leavevmode
10435 \special{!aref %
10436   <u=%
10437     /Type/Action%
10438     /S/Launch%
10439     /F(\Hy@pstringF)%
10440     \Hy@SetNewWindow
10441     \ifx\#3\%
10442     \else
10443       /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10444     \fi
10445     \Hy@href@nextactionraw
10446   >,%
10447   a=<%
10448     \ifHy@pdfa /F 4\fi
10449     \Hy@setpdfborder
10450     \ifx\@runbordercolor\relax
10451     \else
10452       /C[\@runbordercolor]%
10453     \fi
10454   >%
10455 }%
10456 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
10457 \special{!endaref}%
10458 }
10459 \def\Acrobatmenu#1#2{%
10460 \Hy@Acrobatmenu{#1}{#2}{%
10461 \special{!%
10462   aref <u=/S /Named /N /#1>,%
10463   a=<%
10464     \ifHy@pdfa /F 4\fi
10465     \Hy@setpdfborder

```

```

10466 \ifx\@menubordercolor\relax
10467 \else
10468 /C[\@menubordercolor]%
10469 \fi
10470 >%
10471 }%
10472 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
10473 \special{!endaref}%
10474 }%
10475 }

```

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*.

```

10476 \ifnum\Hy@VTeXversion<702 %
10477 \else
10478 \def\hyper@pagetransition{%
10479 \ifx\@pdfpagetransition\relax
10480 \else
10481 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

10482 \else
10483 \hvtex@parse@trans\@pdfpagetransition
10484 \fi
10485 \fi
10486 }%

```

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:

```

10487 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10488 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10489 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10490 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10491 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10492 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10493 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10494 \def\hvtex@par@dimension{/Dm}%
10495 \def\hvtex@par@direction{/Di}%
10496 \def\hvtex@par@duration{/D}%
10497 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

10498 \def\hvtex@gettoken{%
10499   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10500 }%

```

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

```

10501 \def\hvtex@gettoken@#1 #2\@nil{%
10502   \edef\hvtex@token{#1}%
10503   \edef\hvtex@buffer{#2}%
10504 }%
10505 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10506   \let\hvtex@trans@code\@empty
10507   \let\hvtex@param@dimension\@empty
10508   \let\hvtex@param@direction\@empty
10509   \let\hvtex@param@duration\@empty
10510   \let\hvtex@param@motion\@empty
10511   \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10512   \hvtex@gettoken
10513   \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10514     \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10515     \else
10516       \hvtex@gettoken
10517     \fi
10518   \fi
10519   \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

10520   \hvtex@trans@params
10521 }%

```

Reentrant macro to parse optional parameters.

```

10522 \def\hvtex@trans@params{%
10523   \ifx\hvtex@buffer\@empty
10524   \else
10525     \hvtex@gettoken
10526     \let\hvtex@trans@par\hvtex@token
10527     \ifx\hvtex@buffer\@empty
10528     \else
10529       \hvtex@gettoken
10530       \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. VTeX special takes it in milliseconds.

```

10531         \let\hvtex@param@duration\hvtex@token
10532       \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

10533         \expandafter\edef\expandafter\hvtex@param@motion
10534         \expandafter{\expandafter\@gobble\hvtex@token}%
10535       \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```
10536      \expandafter\edef\expandafter\hvtex@param@dimension
10537      \expandafter{\expandafter\@gobble\hvtex@token}%
10538      \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).

```
10539      \let\hvtex@param@direction\hvtex@token
10540      \fi\fi\fi\fi
10541      \fi
10542      \fi
10543      \ifx\hvtex@buffer\@empty
10544      \let\next\hvtex@produce@trans
10545      \else
10546      \let\next\hvtex@trans@params
10547      \fi
10548      \next
10549      }%
```

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

```
10550 \def\hvtex@produce@trans{%
10551 \let\vtex@trans@special\@empty
10552 \if S\hvtex@trans@code
10553 \edef\vtex@trans@special{\hvtex@trans@code
10554 \hvtex@param@dimension\hvtex@param@motion}%
10555 \else\if B\hvtex@trans@code
10556 \edef\vtex@trans@special{%
10557 \hvtex@trans@code\hvtex@param@dimension
10558 }%
10559 \else\if X\hvtex@trans@code
10560 \edef\vtex@trans@special{%
10561 \hvtex@trans@code\hvtex@param@motion
10562 }%
10563 \else\if W\hvtex@trans@code
10564 \edef\vtex@trans@special{%
10565 \hvtex@trans@code\hvtex@param@direction
10566 }%
10567 \else\if D\hvtex@trans@code
10568 \let\vtex@trans@special\hvtex@trans@code
10569 \else\if R\hvtex@trans@code
10570 \let\vtex@trans@special\hvtex@trans@code
10571 \else\if G\hvtex@trans@code
10572 \edef\vtex@trans@special{%
10573 \hvtex@trans@code\hvtex@param@direction
10574 }%
10575 \fi\fi\fi\fi\fi\fi
10576 \ifx\vtex@trans@special\@empty
10577 \else
10578 \ifx\hvtex@param@duration\@empty
10579 \else
10580 \setlength{\dimen@}{\hvtex@param@duration\p}%
```

I'm not guilty of possible overflow.

```
10581 \multiply\dimen@\@m
10582 \edef\vtex@trans@special{%
10583 \vtex@trans@special,\strip@pt\dimen@
10584 }%
```

```

10585     \fi
        And all the mess is just for this.
10586     \special{!trans \vtex@trans@special}%
10587     \fi
10588 }%

10589 \def\hyper@pageduration{%
10590   \ifx\@pdfpageduration\relax
10591   \else
10592     \ifx\@pdfpageduration\@empty
10593       \special{!duration-}%
10594     \else
10595       \special{!duration \@pdfpageduration}%
10596     \fi
10597   \fi
10598 }%

10599 \def\hyper@pagehidden{%
10600   \ifHy@useHidKey
10601     \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
10602   \fi
10603 }%

10604 \g@addto@macro\Hy@EveryPageBoxHook{%
10605   \hyper@pagetransition
10606   \hyper@pageduration
10607   \hyper@pagehidden
10608 }%
10609 \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

```

10610 \ifx\@pdfproducer\relax
10611   \def\@pdfproducer{VTeX}%
10612   \ifnum\Hy@VTeXversion>\z@
10613     \count@\VTeXversion
10614     \divide\count@ 100 %
10615     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10616     \multiply\count@ -100 %
10617     \advance\count@\VTeXversion
10618     \edef\@pdfproducer{%
10619       \@pdfproducer
10620       .\ifnum\count@<10 0\fi\the\count@
10621       \ifx\VTeXOS\@undefined\else
10622         \ifnum\VTeXOS>0 %
10623           \ifnum\VTeXOS<6 %
10624             \space(
10625             \ifcase\VTeXOS
10626             \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10627             \fi
10628           )%
10629         \fi

```

```

10630     \fi
10631     \fi
10632     ,\space
10633     \ifnum\OpMode=\@ne PDF\else PS\fi
10634     \space backend%
10635     \ifx\gexmode\@undefined\else
10636         \ifnum\gexmode>z@\space with GeX\fi
10637     \fi
10638 }%
10639 \fi
10640 \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).

```

10641 \def\PDF@SetupDoc{%
10642     \ifx\@pdfpagescrop\@empty
10643     \else
10644         \special{!pdfinfo b=<\@pdfpagescrop>}%
10645     \fi
10646     \ifx\@pdfstartpage\@empty
10647     \else
10648         \ifx\@pdfstartview\@empty
10649         \else
10650             \special{!onopen Page\@pdfstartpage}%
10651         \fi
10652     \fi
10653     \special{!pdfinfo p=</\@pdfpagemode>}%
10654     \ifx\@baseurl\@empty
10655     \else
10656         \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10657     \fi
10658     \special{!pdfinfo v=<<<%
10659         \ifHy@toolbar\else /HideToolbar true\fi
10660         \ifHy@menubar\else /HideMenubar true\fi
10661         \ifHy>windowui\else /HideWindowUI true\fi
10662         \ifHy@fitwindow /FitWindow true\fi
10663         \ifHy@centerwindow /CenterWindow true\fi
10664         \ifHy@displaydoctitle /DisplayDocTitle true\fi
10665         \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10666         \Hy@UseNameKey{Direction}\@pdfdirection
10667         \Hy@UseNameKey{ViewArea}\@pdfviewarea
10668         \Hy@UseNameKey{ViewClip}\@pdfviewclip
10669         \Hy@UseNameKey{PrintArea}\@pdfprintarea
10670         \Hy@UseNameKey{PrintClip}\@pdfprintclip
10671         \Hy@UseNameKey{PrintScaling}\@pdfprintscaling

```

```

10672 \Hy@UseNameKey{Duplex}\@pdfduplex
10673 \ifx\@pdfpicktraybypdfsize\@empty
10674 \else
10675   /PickTrayByPDFSize \@pdfpicktraybypdfsize
10676 \fi
10677 \ifx\@pdfprintpagerange\@empty
10678 \else
10679   /PrintPageRange[\@pdfprintpagerange]%
10680 \fi
10681 \ifx\@pdfnumcopies\@empty
10682 \else
10683   /NumCopies \@pdfnumcopies
10684 \fi
10685 >>>}%
10686 \ifx\@pdfpagelayout\@empty
10687 \else
10688   \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10689 \fi
10690 }%
10691 \HyInfo@AddonUnsupportedtrue
10692 \def\PDF@FinishDoc{%
10693   \Hy@UseMaketitleInfos
10694   \HyInfo@TrappedUnsupported
10695   \special{!pdfinfo a=<\@pdfauthor>}%
10696   \special{!pdfinfo t=<\@pdftitle>}%
10697   \special{!pdfinfo s=<\@pdfsubject>}%
10698   \special{!pdfinfo c=<\@pdfcreator>}%
10699   \ifx\@pdfproducer\relax
10700   \else
10701     \special{!pdfinfo r=<\@pdfproducer>}%
10702   \fi
10703   \special{!pdfinfo k=<\@pdfkeywords>}%
10704   \Hy@DisableOption{pdfauthor}%
10705   \Hy@DisableOption{pdftitle}%
10706   \Hy@DisableOption{pdfsubject}%
10707   \Hy@DisableOption{pdfcreator}%
10708   \Hy@DisableOption{pdfcreationdate}%
10709   \Hy@DisableOption{pdfmoddate}%
10710   \Hy@DisableOption{pdfproducer}%
10711   \Hy@DisableOption{pdfkeywords}%
10712   \Hy@DisableOption{pdftrapped}%
10713   \Hy@DisableOption{pdfinfo}%
10714 }
10715 </vtex>

```

## 46.7 Fix for Adobe bug number 466320

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

```

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

```

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

```

10716 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
10717 <package>\providecommand*{\Hy@DistillerDestFix}{%
10718 <*pdfmark | dviwindo>
10719 \def\Hy@DistillerDestFix{%
10720 \begingroup
10721 \let\x\literalps@out

```

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

```

10722 \ifnum \@ifundefined{OpMode}{0}{%
10723 \@ifundefined{gexmode}{0}{%
10724 \ifnum\gexmode>0 \OpMode\else 0\fi
10725 }>1 %
10726 \def\x##1{%
10727 \immediate\special{!=##1}%
10728 }%
10729 \fi
10730 \x{%
10731 /product where{%
10732 pop %
10733 product(Distiller)search{%
10734 pop pop pop %
10735 version(.)search{%
10736 exch pop exch pop%
10737 (3011)eq{%
10738 gsave %
10739 newpath 0 0 moveto closepath clip%
10740 /Courier findfont 10 scalefont setfont %
10741 72 72 moveto(.).show %
10742 grestore%
10743 }if%
10744 }{pop}ifelse%
10745 }{pop}ifelse%
10746 }if%
10747 }%
10748 \endgroup
10749 }
10750 </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

```

10751 <*pdfmark>
10752 \Hy@breaklinks@unsupported
10753 \def\HyPat@ObjRef{%

```

```

10754 \[~{]}+~}%
10755 }
10756 \Hy@WrapperDef\hyper@anchor#1{%
10757 \Hy@SaveLastskip
10758 \Hy@VerboseAnchor{#1}%
10759 \begingroup
10760 \pdfmark[\anchor@spot]{%
10761 pdfmark=/DEST,%
10762 linktype=anchor,%
10763 View=/\@pdfview \@pdfviewparams,%
10764 DestAnchor={#1}%
10765 }%
10766 \endgroup
10767 \Hy@RestoreLastskip
10768 }
10769 \ltx@ifundefined{hyper@anchorstart}{-}{\endinput}
10770 \Hy@WrapperDef\hyper@anchorstart#1{%
10771 \Hy@SaveLastskip
10772 \Hy@VerboseAnchor{#1}%
10773 \literalps@out{H.S}%
10774 \Hy@AllowHyphens
10775 \xdef\hyper@currentanchor{#1}%
10776 \Hy@activeanchortrue
10777 }
10778 \def\hyper@anchorend{%
10779 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10780 \pdfmark{%
10781 pdfmark=/DEST,%
10782 linktype=anchor,%
10783 View=/\@pdfview \@pdfviewparams,%
10784 DestAnchor=\hyper@currentanchor,%
10785 }%
10786 \Hy@activeanchorfalse
10787 \Hy@RestoreLastskip
10788 }
10789 \def\hyper@linkstart#1#2{%
10790 \Hy@VerboseLinkStart{#1}{#2}%
10791 \ifHy@breaklinks
10792 \else
10793 \leavevmode
10794 \ifmmode
10795 \def\Hy@LinkMath{$}%
10796 \else
10797 \def\Hy@LinkMath{}%
10798 \fi
10799 \Hy@SaveSpaceFactor
10800 \hbox\bgroup
10801 \Hy@RestoreSpaceFactor
10802 \Hy@LinkMath
10803 \fi
10804 \expandafter\Hy@colorlink\csname @#1color\endcsname
10805 \literalps@out{H.S}%
10806 \Hy@AllowHyphens
10807 \xdef\hyper@currentanchor{#2}%
10808 \gdef\hyper@currentlinktype{#1}%
10809 }
10810 \def\hyper@linkend{%

```

```

10811 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10812 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10813   \let\Hy@tempcolor\relax
10814 }{%
10815   \edef\Hy@tempcolor{%
10816     \csname @\hyper@currentlinktype bordercolor\endcsname
10817   }%
10818 }%
10819 \pdfmark{%
10820   pdfmark=/ANN,%
10821   linktype=link,%
10822   subtype=/Link,%
10823   PDFAFlags=4,%
10824   Dest=\hyper@currentanchor,%
10825   AcroHighlight=\@pdfhighlight,%
10826   Border=\@pdfborder,%
10827   BorderStyle=\@pdfborderstyle,%
10828   Color=\Hy@tempcolor,%
10829   Raw=H.B%
10830 }%
10831 \Hy@endcolorlink
10832 \ifHy@breaklinks
10833 \else
10834   \Hy@LinkMath
10835   \Hy@SaveSpaceFactor
10836   \egroup
10837   \Hy@RestoreSpaceFactor
10838 \fi
10839 }

```

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.

```

10840 \begingroup
10841   \catcode'P=12 %
10842   \catcode'T=12 %
10843   \lowercase{\endgroup
10844     \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10845 }
10846 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

10847 \def\hyper@pagetransition{%
10848   \ifx\@pdfpagetransition\relax
10849   \else
10850     \ifx\@pdfpagetransition\@empty
10851       % 1. Does an old entry have to be deleted?
10852       % 2. If 1=yes, how to delete?
10853     \else
10854       \pdfmark{%
10855         pdfmark=/PUT,%
10856         Raw={%
10857           \string{ThisPage\string}%
10858           <</Trans << /S /\@pdfpagetransition\space >> >>%
10859         }%
10860       }%
10861     \fi

```

```

10862 \fi
10863 }

```

\hyper@pageduration

```

10864 \def\hyper@pageduration{%
10865   \ifx\@pdfpageduration\relax
10866   \else
10867     \ifx\@pdfpageduration\@empty
10868       % 1. Does an old entry have to be deleted?
10869       % 2. If 1=yes, how to delete?
10870     \else
10871       \pdfmark{%
10872         pdfmark=/PUT,%
10873         Raw={%
10874           \string{ThisPage\string}%
10875           <</Dur \@pdfpageduration>>%
10876         }%
10877       }%
10878     \fi
10879   \fi
10880 }

```

\hyper@pagehidden

```

10881 \def\hyper@pagehidden{%
10882   \ifHy@useHidKey
10883   \pdfmark{%
10884     pdfmark=/PUT,%
10885     Raw={%
10886       \string{ThisPage\string}%
10887       <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10888     }%
10889   }%
10890 \fi
10891 }

```

```

10892 \g@addto@macro\Hy@EveryPageBoxHook{%
10893   \hyper@pagetransition
10894   \hyper@pageduration
10895   \hyper@pagehidden
10896 }

```

```

10897 \def\hyper@image#1#2{%
10898   \hyper@linkurl{#2}{#1}%
10899 }
10900 \def\Hy@undefinedname{UNDEFINED}
10901 \def\hyper@link#1#2#3{%
10902   \Hy@VerboseLinkStart{#1}{#2}%
10903   \ltx@ifundefined{@#1bordercolor}{%
10904     \let\Hy@tempcolor\relax
10905   }{%
10906     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
10907   }%
10908   \begin{group}
10909     \protected@edef\Hy@testname{#2}%
10910     \ifx\Hy@testname\@empty
10911       \Hy@Warning{%
10912         Empty destination name,\MessageBreak
10913         using '\Hy@undefinedname'%

```

```

10914     }%
10915     \let\Hy@testname\Hy@undefinedname
10916 \fi
10917 \pdfmark[{#3}]{%
10918     Color=\Hy@tempcolor,%
10919     linktype={#1},%
10920     AcroHighlight=\@pdfhighlight,%
10921     Border=\@pdfborder,%
10922     BorderStyle=\@pdfborderstyle,%
10923     pdfmark=/ANN,%
10924     Subtype=/Link,%
10925     PDFAFlags=4,%
10926     Dest=\Hy@testname
10927 }%
10928 \endgroup
10929 }
10930 \newtoks\pdf@docset
10931 \def\PDF@FinishDoc{%
10932     \Hy@UseMaketitleInfos
10933     \HyInfo@GenerateAddons
10934     \let\Hy@temp\@empty
10935     \ifx\@pdfcreationdate\@empty
10936     \else
10937         \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
10938     \fi
10939     \ifx\@pdfmoddate\@empty
10940     \else
10941         \expandafter\def\expandafter\Hy@temp\expandafter{%
10942             \Hy@temp
10943             ModDate=\@pdfmoddate,%
10944         }%
10945     \fi
10946     \ifx\@pdfproducer\relax
10947     \else
10948         \expandafter\def\expandafter\Hy@temp\expandafter{%
10949             \Hy@temp
10950             Producer=\@pdfproducer,%
10951         }%
10952     \fi
10953     \expandafter
10954     \pdfmark\expandafter{%
10955         \Hy@temp
10956         pdfmark=/DOCINFO,%
10957         Title=\@pdftitle,%
10958         Subject=\@pdfsubject,%
10959         Creator=\@pdfcreator,%
10960         Author=\@pdfauthor,%
10961         Keywords=\@pdfkeywords,%
10962         Trapped=\@pdftrapped
10963     }%
10964     \ifx\HyInfo@Addons\@empty
10965     \else
10966         \pdfmark{%
10967             pdfmark=/DOCINFO,%
10968             Raw={\HyInfo@Addons}%
10969         }%
10970     \fi

```

```

10971 \Hy@DisableOption{pdfauthor}%
10972 \Hy@DisableOption{pdftitle}%
10973 \Hy@DisableOption{pdfsubject}%
10974 \Hy@DisableOption{pdfcreator}%
10975 \Hy@DisableOption{pdfcreationdate}%
10976 \Hy@DisableOption{pdfmoddate}%
10977 \Hy@DisableOption{pdfproducer}%
10978 \Hy@DisableOption{pdfkeywords}%
10979 \Hy@DisableOption{pdftrapped}%
10980 \Hy@DisableOption{pdfinfo}%
10981 }
10982 \def\PDF@SetupDoc{%
10983 \def\Hy@temp{%
10984 \ifx\@pdfstartpage\@empty
10985 \else
10986 \ifx\@pdfstartview\@empty
10987 \else
10988 \edef\Hy@temp{%
10989 ,Page=\@pdfstartpage
10990 ,View=\@pdfstartview
10991 }%
10992 \fi
10993 \fi
10994 \edef\Hy@temp{%
10995 \noexpand\pdfmark{%
10996 pdfmark=/DOCVIEW,%
10997 PageMode=/\@pdfpagemode
10998 \Hy@temp
10999 }%
11000 }%
11001 \Hy@temp
11002 \ifx\@pdfpagescrop\@empty
11003 \else
11004 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11005 \fi
11006 \edef\Hy@temp{%
11007 \ifHy@toolbar\else /HideToolbar true\fi
11008 \ifHy@menubar\else /HideMenubar true\fi
11009 \ifHy>windowui\else /HideWindowUI true\fi
11010 \ifHy@fitwindow /FitWindow true\fi
11011 \ifHy@centerwindow /CenterWindow true\fi
11012 \ifHy@displaydoctitle /DisplayDocTitle true\fi
11013 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11014 \Hy@UseNameKey{Direction}\@pdfdirection
11015 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11016 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11017 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11018 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11019 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11020 \Hy@UseNameKey{Duplex}\@pdfduplex
11021 \ifx\@pdfpicktraybypdfsize\@empty
11022 \else
11023 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11024 \fi
11025 \ifx\@pdfprintpagerange\@empty
11026 \else
11027 /PrintPageRange\@pdfprintpagerange}%

```

```

11028 \fi
11029 \ifx\@pdfnumcopies\@empty
11030 \else
11031 /NumCopies \@pdfnumcopies
11032 \fi
11033 }%
11034 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11035 \pdfmark{%
11036 pdfmark=/PUT,%
11037 Raw={%
11038 \string{Catalog\string}<<%
11039 \ifx\Hy@temp\@empty
11040 \else
11041 /ViewerPreferences<<\Hy@temp>>%
11042 \fi
11043 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11044 \ifx\@pdflang\@empty
11045 \else
11046 /Lang(\@pdflang)%
11047 \fi
11048 \ifx\@baseurl\@empty
11049 \else
11050 /URI<</Base(\Hy@pstringB)>>%
11051 \fi
11052 >>%
11053 }%
11054 }%
11055 }
11056 </pdfmark>
11057 <*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.

```

11058 \newif\ifHy@pdfmarkerror
11059 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
11060 \def\pdfmark@[#1]#2{%
11061 \Hy@pdfmarkerrorfalse
11062 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11063 \@processme
11064 \let\pdf@type\relax
11065 \kvsetkeys{PDF}{#2}%
11066 \ifHy@pdfmarkerror
11067 \else
11068 \ifx\pdf@type\relax
11069 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11070 \ifx\#1\%
11071 \else
11072 \pdf@rect{#1}%
11073 \fi
11074 \else
11075 \ifx\#1\%
11076 \literalps@out{%
11077 [\the\pdf@toks\space\pdf@type\space pdfmark%
11078 }%

```

```

11079 \else
11080 \ltx@ifundefined{@pdf@linktype color}{%
11081 \Hy@colorlink\@linkcolor
11082 }{%
11083 \expandafter\Hy@colorlink
11084 \csname @pdf@linktype color\endcsname
11085 }%
11086 \pdf@rect{#1}%
11087 \literalps@out{%
11088 [\the\pdf@toks\space\pdf@type\space pdfmark%
11089 }%
11090 \Hy@endcolorlink
11091 \fi
11092 \fi
11093 \fi
11094 }

```

The complicated bit is working out the right enclosing rectangle of some piece of  $\text{\TeX}$  text, needed by the `/Rect` key. This solution originates with Toby Thain (tobythain@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}

```

```

11095 \newsavebox{\pdf@box}
11096 \providecommand*{\Hy@setouterhbox}{\sbox}
11097 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11098 \def\Hy@DEST{/DEST}
11099 \def\pdf@rect#1{%
11100 \begingroup
11101 \chardef\x=1 %
11102 \def\Hy@temp{#1}%
11103 \ifx\Hy@temp\ltx@empty
11104 \chardef\x=0 %
11105 \else
11106 \def\y{\anchor@spot}%
11107 \ifx\Hy@temp\y
11108 \def\y{\relax}%
11109 \ifx\anchor@spot\y
11110 \chardef\x=0 %
11111 \fi
11112 \fi
11113 \fi
11114 \expandafter\endgroup
11115 \ifcase\x
11116 \literalps@out{H.S}%
11117 \literalps@out{H.R}%
11118 \else
11119 \leavevmode
11120 \Hy@SaveSpaceFactor
11121 \ifmmode
11122 \def\Hy@LinkMath{$}%
11123 \else
11124 \def\Hy@LinkMath{}%

```

```

11125 \fi
11126 \ifHy@breaklinks
11127 \Hy@setouterhbox\pdf@box{%
11128 \Hy@RestoreSpaceFactor
11129 \Hy@LinkMath
11130 \Hy@AllowHyphens#1%
11131 \Hy@LinkMath
11132 \Hy@SaveSpaceFactor
11133 }%
11134 \else
11135 \sbox\pdf@box{%
11136 \Hy@RestoreSpaceFactor
11137 \Hy@LinkMath
11138 #1%
11139 \Hy@LinkMath
11140 \Hy@SaveSpaceFactor
11141 }%
11142 \fi
11143 \dimen@\ht\pdf@box
11144 \ifdim\dp\pdf@box=\z@
11145 \literalps@out{H.S}%
11146 \else
11147 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11148 \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...).

```

11149 \ifHy@breaklinks
11150 \expandafter\Hy@breaklinksunhbox
11151 \else
11152 \expandafter\box
11153 \fi
11154 \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

11155 \ifdim\dimen@=\z@
11156 \literalps@out{H.R}%
11157 \else
11158 \raise\dimen@\hbox{\literalps@out{H.R}}%
11159 \fi
11160 \Hy@RestoreSpaceFactor
11161 \fi
11162 \ifx\pdf@type\Hy@DEST
11163 \else
11164 \pdf@addtoksx{H.B}%
11165 \fi
11166 }

```

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.

```

11167 \newtoks\pdf@toks
11168 \newtoks\pdf@defaulttoks
11169 \pdf@defaulttoks={}%
11170 \def\pdf@addtoks#1#2{%

```

```

11171 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11172 \@processme
11173 }
11174 \def\pdf@addtoksx#1{%
11175 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11176 \@processme
11177 }
11178 \def\PDFdefaults#1{%
11179 \pdf@defaulttoks={#1}%
11180 }

```

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

```

11181 % what is the type of pdfmark?
11182 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11183 % what is the link type?
11184 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11185 \def\pdf@linktype{link}
11186 % parameter is a stream of PDF
11187 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11188 % parameter is a name
11189 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11190 % parameter is a array
11191 \define@key{PDF}{Border}{%
11192 \edef\Hy@temp{#1}%
11193 \ifx\Hy@temp\@empty
11194 \else
11195 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11196 \fi
11197 }
11198 \let\Hy@BorderArrayPatch\@empty
11199 % parameter is a dictionary
11200 \define@key{PDF}{BorderStyle}{%
11201 \edef\Hy@temp{#1}%
11202 \ifx\Hy@temp\@empty
11203 \else
11204 \pdf@addtoks{<<#1>>}{BS}%
11205 \fi
11206 }
11207 % parameter is a array
11208 \define@key{PDF}{Color}{%
11209 \ifx\relax#1\relax
11210 \else
11211 \pdf@addtoks{[#1]}{Color}% hash-ok
11212 \fi
11213 }
11214 % parameter is a string
11215 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11216 % parameter is a integer
11217 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11218 % parameter is a array
11219 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11220 % parameter is a string
11221 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11222 % parameter is a string or file
11223 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11224 % parameter is a destination
11225 \define@key{PDF}{Dest}{%
11226 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%

```

```

11227 \ifx\Hy@pstringDest\@empty
11228 \Hy@pdfmarkerrortrue
11229 \Hy@Warning{Destination with empty name ignored}%
11230 \else
11231 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11232 \fi
11233 }
11234 \define@key{PDF}{DestAnchor}{%
11235 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11236 \ifx\Hy@pstringDest\@empty
11237 \Hy@pdfmarkerrortrue
11238 \Hy@Warning{Destination with empty name ignored}%
11239 \else
11240 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11241 \fi
11242 }
11243 % parameter is a string
11244 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11245 % parameter is a string
11246 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11247 % parameter is a int
11248 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11249 \define@key{PDF}{PDFAFlags}{%
11250 \ifHy@pdfa
11251 \pdf@addtoks{#1}{F}%
11252 \fi
11253 }
11254 % parameter is a name
11255 \define@key{PDF}{AcroHighlight}{%
11256 \begingroup
11257 \edef\x{#1}%
11258 \expandafter\endgroup\ifx\x\@empty
11259 \else
11260 \pdf@addtoks{#1}{H}%
11261 \fi
11262 }
11263 % parameter is a string
11264 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11265 % parameter is a string
11266 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11267 % parameter is a string
11268 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11269 % parameter is a string
11270 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11271 % parameter is a Boolean
11272 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11273 % parameter is a integer or name
11274 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11275 % parameter is a name
11276 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11277 % parameter is a string
11278 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11279 % parameter is a array
11280 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11281 % parameter is a integer
11282 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11283 % parameter is a name

```

```

11284 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11285 % parameter is a string
11286 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11287 % parameter is a string
11288 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11289 % parameter is a string
11290 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11291 % parameter is an array
11292 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11293 % parameter is a string
11294 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11295 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11296 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11297 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11298 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11299 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11300 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11301 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11302 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11303 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11304 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
11305 \define@key{PDF}{Trapped}{%
11306   \edef\Hy@temp{#1}%
11307   \ifx\Hy@temp\@empty
11308     \else
11309       \pdf@addtoks{/#1}{Trapped}%
11310     \fi
11311 }
11312
11313 </pdfmarkbase>
11314 <*pdfmark>
11315 \def\Acrobatmenu#1#2{%
11316   \Hy@Acrobatmenu{#1}{#2}{%
11317     \pdfmark[{#2}]{%
11318       linktype=menu,%
11319       pdfmark=/ANN,%
11320       AcroHighlight=\@pdfhighlight,%
11321       Border=\@pdfborder,%
11322       BorderStyle=\@pdfborderstyle,%
11323       Action={<< /Subtype /Named /N /#1 >>},%
11324       Subtype=/Link,%
11325       PDFAFlags=4%
11326     }%
11327   }%
11328 }

```

And now for some useful examples:

```

11329 \def\PDFNextPage{\@ifnextchar[\PDFNextPage@]{\PDFNextPage@[]}}
11330 \def\PDFNextPage@[#1]#2{%
11331   \pdfmark[{#2}]{%
11332     #1,%
11333     Border=\@pdfborder,%
11334     BorderStyle=\@pdfborderstyle,%
11335     Color=.2 .1 .5,%
11336     pdfmark=/ANN,%
11337     Subtype=/Link,%

```

```

11338   PDFAFlags=4,%
11339   Page=/Next%
11340 }%
11341 }
11342 \def\PDFPreviousPage{%
11343   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11344 }
11345 \def\PDFPreviousPage@[#1]#2{%
11346   \pdfmark[{#2}]{%
11347     #1,%
11348     Border=\@pdfborder,%
11349     BorderStyle=\@pdfborderstyle,%
11350     Color=.4 .4 .1,%
11351     pdfmark=/ANN,%
11352     Subtype=/Link,%
11353     PDFAFlags=4,%
11354     Page=/Prev%
11355   }%
11356 }
11357 \def\PDFOpen#1{%
11358   \pdfmark{#1,pdfmark=/DOCVIEW}%
11359 }

```

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

```

11360 \def\hyper@linkurl#1#2{%
11361   \begingroup
11362     \Hy@pstringdef\Hy@pstringURI{#2}%
11363     \hyper@chars
11364     \leavevmode
11365     \pdfmark[{#1}]{%
11366       pdfmark=/ANN,%
11367       linktype=url,%
11368       AcroHighlight=\@pdfhighlight,%
11369       Border=\@pdfborder,%
11370       BorderStyle=\@pdfborderstyle,%
11371       Color=\@urlbordercolor,%
11372       Action={<<%
11373         /Subtype/URI%
11374         /URI(\Hy@pstringURI)%
11375         \ifHy@href@ismap
11376           /IsMap true%
11377         \fi
11378       >>},%
11379       Subtype=/Link,%
11380       PDFAFlags=4%
11381     }%
11382   \endgroup
11383 }
11384 \def\hyper@linkfile#1#2#3{%
11385   \begingroup
11386     \def\Hy@pstringF{#2}%
11387     \Hy@CleanupFile\Hy@pstringF
11388     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11389     \Hy@pstringdef\Hy@pstringD{#3}%
11390     \Hy@MakeRemoteAction
11391     \leavevmode
11392     \pdfmark[{#1}]{%
11393       pdfmark=/ANN,%

```

```

11394 Subtype=/Link,%
11395 PDFAFlags=4,%
11396 AcroHighlight=\@pdfhighlight,%
11397 Border=\@pdfborder,%
11398 BorderStyle=\@pdfborderstyle,%
11399 linktype=file,%
11400 Color=\@filebordercolor,%
11401 Action={%
11402   <<%
11403     /S/GoToR%
11404     \Hy@SetNewWindow
11405     /F(\Hy@pstringF)%
11406     /D%
11407     \ifx\#3\%
11408       [\Hy@href@page\@pdfremotestartview]%
11409     \else
11410       (\Hy@pstringD)cvn%
11411     \fi
11412     \Hy@href@nextactionraw
11413   >>%
11414   }%
11415 }%
11416 \endgroup
11417 }
11418 \def\@hyper@launch run:#1\#2#3{%
11419   \begingroup
11420   \Hy@pstringdef\Hy@pstringF{#1}%
11421   \Hy@pstringdef\Hy@pstringP{#3}%
11422   \leavevmode
11423   \pdfmark[{#2}]{%
11424     pdfmark=/ANN,%
11425     Subtype=/Link,%
11426     PDFAFlags=4,%
11427     AcroHighlight=\@pdfhighlight,%
11428     Border=\@pdfborder,%
11429     BorderStyle=\@pdfborderstyle,%
11430     linktype=run,%
11431     Color=\@runbordercolor,%
11432     Action={%
11433       <<%
11434         /S/Launch%
11435         \Hy@SetNewWindow
11436         /F(\Hy@pstringF)%
11437         \ifx\#3\%
11438         \else
11439           /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11440         \fi
11441         \Hy@href@nextactionraw
11442       >>%
11443       }%
11444     }%
11445   \endgroup
11446 }
11447 \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.

```
11448 <*dvips>
11449 \providecommand*\XR@ext}{pdf}
11450 \def\Hy@raisedlink{}
11451 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11452 \def\headerps@out#1{\special{! #1}}%
11453 \input{pdfmark.def}%
11454 \ifx\@pdfproducer\relax
11455 \def\@pdfproducer{dvips + Distiller}%
11456 \fi
11457 \providecommand*\@pdfborder{0 0 1}
11458 \providecommand*\@pdfborderstyle{}
11459 \providecommand*\@pdfview{XYZ}
11460 \providecommand*\@pdfviewparams{ H.V}
11461 \def\Hy@BorderArrayPatch{BorderArrayPatch}
11462 \g@addto@macro\Hy@FirstPageHook{%
11463 \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.

```
11464 /DvipsToPDF{72.27 mul Resolution div} def%
11465 /PDFToDvips{72.27 div Resolution mul} def%
11466 /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.

```
11467 /BorderArrayPatch{%
11468 [exch{%
11469 dup dup type/integertype eq exch type/realtype eq or%
11470 {BPToDvips}if%
11471 }forall]%
11472 }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.

```
11473 /HyperBorder {1 PDFToDvips} def%
11474 /H.V {pdf@hoff pdf@voff null} def%
11475 /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

```
11476 /H.S {%
```

```

11477     currentpoint %
11478     HyperBorder add /pdf@lly exch def %
11479     dup DvipsToPDF 72 add /pdf@hoff exch def %
11480     HyperBorder sub /pdf@llx exch def%
11481 } def%

```

The calculation of upper left  $y$  is done without raising the point in  $\text{\TeX}$ , by simply adding on the current  $\backslash\text{baselineskip}$  to the current  $y$ . This is usually too much, so we remove a notional 2 points.

We have to see what the current  $\text{baselineskip}$  is, and convert it to the dvips coordinate system.

Argument:  $\text{baselineskip}$  in pt. The  $x$  and  $y$  coordinates of the current point, minus the  $\text{baselineskip}$

```

11482 /H.L {%
11483     2 sub dup%
11484     /HyperBasePt exch def %
11485     PDFToDvips /HyperBaseDvips exch def %
11486     currentpoint %
11487     HyperBaseDvips sub /pdf@ury exch def%
11488     /pdf@urx exch def%
11489 } def%
11490 /H.A {%
11491     H.L %
11492 % | /pdf@voff| = the distance from the top of the page to a point
11493 % | \baselineskip| above the current point in PDF coordinates
11494     currentpoint exch pop %
11495     vsize 72 sub exch DvipsToPDF %
11496     HyperBasePt sub % baseline skip
11497     sub /pdf@voff exch def%
11498 } def%
11499 /H.R {%
11500     currentpoint %
11501     HyperBorder sub /pdf@ury exch def %
11502     HyperBorder add /pdf@urx exch def %
11503 % | /pdf@voff| = the distance from the top of the page to the current point, in
11504 % PDF coordinates
11505     currentpoint exch pop vsize 72 sub %
11506     exch DvipsToPDF sub /pdf@voff exch def%
11507 } def%
11508 }%
11509 }
11510 \AtBeginShipoutFirst{%
11511     \ifHy@setpagesize
11512         \begingroup
11513             \@ifundefined{stockwidth}{%
11514                 \ifdim\paperwidth>\z@
11515                     \ifdim\paperheight>\z@
11516                         \special{papersize=\the\paperwidth,\the\paperheight}%
11517                     \fi
11518                 \fi
11519             }{%
11520                 \ifdim\stockwidth>\z@
11521                     \ifdim\stockheight>\z@
11522                         \special{papersize=\the\stockwidth,\the\stockheight}%
11523                     \fi
11524                 \fi
11525             }%

```

```

11526   \endgroup
11527   \fi
11528   \Hy@DisableOption{setpagesize}%
11529 }
11530 </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.

```

11531 <*vtexpdfmark>
11532 \providecommand*\XR@ext{-pdf}
11533 \def\Hy@raisedlink{}
11534 \def\literalps@out#1{\special{pS:#1}}%
11535 \def\headerps@out#1{\immediate\special{pS:#1}}%
11536 \input{pdfmark.def}%
11537 \ifx\@pdfproducer\relax
11538   \ifnum\OpMode=\@ne
11539     \def\@pdfproducer{VTeX}%
11540   \else
11541     \def\@pdfproducer{VTeX + Distiller}%
11542   \fi
11543 \fi
11544 \providecommand*\@pdfborder{0 0 1}
11545 \providecommand*\@pdfborderstyle{}
11546 \providecommand*\@pdfview{XYZ}
11547 \providecommand*\@pdfviewparams{ H.V}
11548 \g@addto@macro\Hy@FirstPageHook{%
11549   \headerps@out{%
11550     /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.

```

11551   /HyperBorder {1} def%
11552   /H.V {pdf@hoff pdf@voff null} def%
11553   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11554   /H.S {%
11555     currentpoint %
11556     HyperBorder sub%
11557     /pdf@lly exch def %
11558     dup 72 add /pdf@hoff exch def %
11559     HyperBorder sub%
11560     /pdf@llx exch def%
11561   } def%

```

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

```

11562   /H.L {%
11563     2 sub%
11564     /HyperBasePt exch def %
11565     currentpoint %

```

```

11566   HyperBasePt add HyperBorder add%
11567   /pdf@ury exch def %
11568   HyperBorder add%
11569   /pdf@urx exch def%
11570   } def%
11571   /H.A {%
11572     H.L %
11573     currentpoint exch pop %
11574     vsize 72 sub exch %
11575     HyperBasePt add add%
11576     /pdf@voff exch def%
11577   } def%
pdf@ury =  $Y_c$  + HyperBorder, pdf@urx =  $X_c$  + HyperBorder
11578   /H.R {%
11579     currentpoint %
11580     HyperBorder add%
11581     /pdf@ury exch def %
11582     HyperBorder add%
11583     /pdf@urx exch def %
11584     currentpoint exch pop vsize 72 sub add%
11585     /pdf@voff exch def%
11586   } def%
11587 }%
11588 }
11589 </vtxpdfmark>

```

## 46.11 Textures

```

11590 <*textures>
11591 \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.

```

11592 \begingroup
11593   \obeylines %
11594   \gdef\Hy@ps@CR{\noexpand
11595   }%
11596 \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`.

```

11597 \def\literalps@out#1{%

```

```

11598 \special{postscript 0 0 transform}%
11599 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11600}%
11601%

```

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.

```

11602 \def\headerps@out#1{%
11603   \special{%
11604     prepostscript TeXdict begin\Hy@ps@CR
11605       #1\Hy@ps@CR
11606     end%
11607   }%
11608}%
11609%

```

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.

```

11610 \g@addto@macro\Hy@FirstPageHook{%
11611   \headerps@out{%
11612     /betterpdfmark {%
11613       systemdict begin %
11614         dup /BP eq%
11615         {cleartomark gsave nulldevice []%
11616         {dup /EP eq%
11617           {cleartomark cleartomark grestore}%
11618           {cleartomark}%
11619           ifelse%
11620         }ifelse %
11621       end%
11622     }def\Hy@ps@CR
11623     ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11624   }% end of \headerps@out
11625}% end of \AtBeginShipoutFirst
11626%
11627 \input{pdfmark.def}%
11628%
11629 \ifx\@pdfproducer\relax
11630 \def\@pdfproducer{Textures + Distiller}%
11631 \fi
11632 \providecommand*\@pdfborder{0 0 1}
11633 \providecommand*\@pdfborderstyle{}
11634 \providecommand*\@pdfview{XYZ}
11635 \providecommand*\@pdfviewparams{ H.V}
11636%

```

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 T<sub>E</sub>X.

```

11637 \Hy@AtBeginDocument{%
11638   \headerps@out{%

```

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

```

11639   /vsize {\Hy@pageheight} def%

```

```

11640 /DvipsToPDF {} def%
11641 /PDFToDvips {} def%
11642 /BPToDvips {} def%
11643 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11644 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11645 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11646 /H.S {%
11647   currentpoint %
11648   HyperBorder add /pdf@lly exch def %
11649   dup DvipsToPDF 72 add /pdf@hoff exch def %
11650   HyperBorder sub /pdf@llx exch def%
11651 } def\Hy@ps@CR
11652 /H.L {%
11653   2 sub %
11654   PDFToDvips /HyperBase exch def %
11655   currentpoint %
11656   HyperBase sub /pdf@ury exch def%
11657   /pdf@urx exch def%
11658 } def\Hy@ps@CR
11659 /H.A {%
11660   H.L %
11661   currentpoint exch pop %
11662   vsize 72 sub exch DvipsToPDF %
11663   HyperBase sub % baseline skip
11664   sub /pdf@voff exch def%
11665 } def\Hy@ps@CR
11666 /H.R {%
11667   currentpoint %
11668   HyperBorder sub /pdf@ury exch def %
11669   HyperBorder add /pdf@urx exch def %
11670   currentpoint exch pop vsize 72 sub %
11671   exch DvipsToPDF sub /pdf@voff exch def%
11672 } def\Hy@ps@CR
11673 }%
11674 }

11675 \Hy@AtBeginDocument{%
11676   \ifHy@colorlinks
11677     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11678   \fi
11679 }

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.

11680 \expandafter\let\expandafter\keepPDF@SetupDoc
11681   \csname PDF@SetupDoc\endcsname
11682 \def\PDF@SetupDoc{%
11683   \ifx\@baseurl\@empty
11684   \else
11685     \special{html:<base href="\@baseurl">}%
11686   \fi
11687   \keepPDF@SetupDoc
11688 }

11689 \Hy@WrapperDef\hyper@anchor#1{%
11690   \Hy@SaveLastskip
11691   \Hy@VerboseAnchor{#1}%
11692   \begingroup
11693   \let\protect=\string

```

```

11694 \special{html:<a name=%
11695 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11696 \endgroup
11697 \Hy@activeanchortrue
11698 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11699 \special{html:</a>}%
11700 \Hy@activeanchorfalse
11701 \Hy@RestoreLastskip
11702 }
11703 \Hy@WrapperDef\hyper@anchorstart#1{%
11704 \Hy@SaveLastskip
11705 \Hy@VerboseAnchor{#1}%
11706 \begingroup
11707 \hyper@chars
11708 \special{html:<a name=%
11709 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11710 \endgroup
11711 \Hy@activeanchortrue
11712 }
11713 \def\hyper@anchorend{%
11714 \special{html:</a>}%
11715 \Hy@activeanchorfalse
11716 \Hy@RestoreLastskip
11717 }
11718 \def\@urlltype{url}
11719 \def\hyper@linkstart#1#2{%
11720 \Hy@VerboseLinkStart{#1}{#2}%
11721 \expandafter\Hy@colorlink\csname @#1color\endcsname
11722 \def\Hy@tempa{#1}%
11723 \ifx\Hy@tempa\@urlltype
11724 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11725 \else
11726 \begingroup
11727 \hyper@chars
11728 \special{%
11729 html:<a href=%
11730 \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>%
11731 }%
11732 \endgroup
11733 \fi
11734 }
11735 \def\hyper@linkend{%
11736 \special{html:</a>}%
11737 \Hy@endcolorlink
11738 }
11739 \def\hyper@linkfile#1#2#3{%
11740 \hyper@linkurl{#1}{%
11741 \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
11742 }%
11743 }
11744 \def\hyper@linkurl#1#2{%
11745 \leavevmode
11746 \ifHy@raiselinks
11747 \Hy@SaveSpaceFactor
11748 \Hy@SaveSavedSpaceFactor
11749 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11750 \Hy@RestoreSavedSpaceFactor

```

```

11751 \@linkdim\dp\@tempboxa
11752 \lower\@linkdim\hbox{%
11753   \hyper@chars
11754   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11755 }%
11756 \Hy@colorlink\@urlcolor
11757 \Hy@RestoreSpaceFactor
11758 #1%
11759 \Hy@SaveSpaceFactor
11760 \@linkdim\ht\@tempboxa
11761 \advance\@linkdim by -6.5\p@
11762 \raise\@linkdim\hbox{\special{html:</a>}}%
11763 \Hy@endcolorlink
11764 \Hy@RestoreSpaceFactor
11765 \else
11766 \begingroup
11767   \hyper@chars
11768   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11769   \Hy@colorlink\@urlcolor#1%
11770   \special{html:</a>}%
11771   \Hy@endcolorlink
11772 \endgroup
11773 \fi
11774 }

```

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

```

11775 \def\hyper@link#1#2#3{%
11776   \Hy@VerboseLinkStart{#1}{#2}%
11777   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
11778 }
11779 \def\hyper@image#1#2{%
11780   \begingroup
11781   \hyper@chars
11782   \special{html:<img src=\hyper@quote#1\hyper@quote>}%
11783 \endgroup
11784 }
11785 </textures>

```

## 46.12 dvipsone

```

11786 % \subsection{dvipsone driver}
11787 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
11788 % |\special| commands.
11789 <*dvipsone>
11790 \providecommand*{\XR@ext}{pdf}
11791 \def\Hy@raisedlink{}
11792 \providecommand*\@pdfborder{0 0 1}
11793 \providecommand*\@pdfborderstyle{}
11794 \def\literalps@out#1{\special{ps:#1}}%
11795 \def\headerps@out#1{\special{headertext=#1}}%
11796 \input{pdfmark.def}%
11797 \ifx\@pdfproducer\relax
11798   \def\@pdfproducer{dvipsone + Distiller}%
11799 \fi
11800 \HyInfo@AddonUnsupportedtrue
11801 \def\PDF@FinishDoc{%
11802   \Hy@UseMaketitleInfos
11803   \HyInfo@TrappedUnsupported

```

```

11804 \special{PDF: Keywords \@pdfkeywords}%
11805 \special{PDF: Title \@pdftitle}%
11806 \special{PDF: Creator \@pdfcreator}%
11807 \ifx\@pdfcreationdate\@empty
11808 \else
11809 \special{PDF: CreationDate \@pdfcreationdate}%
11810 \fi
11811 \ifx\@pdfmoddate\@empty
11812 \else
11813 \special{PDF: ModDate \@pdfmoddate}%
11814 \fi
11815 \special{PDF: Author \@pdfauthor}%
11816 \ifx\@pdfproducer\relax
11817 \else
11818 \special{PDF: Producer \@pdfproducer}%
11819 \fi
11820 \special{PDF: Subject \@pdfsubject}%
11821 \Hy@DisableOption{pdfauthor}%
11822 \Hy@DisableOption{pdftitle}%
11823 \Hy@DisableOption{pdfsubject}%
11824 \Hy@DisableOption{pdfcreator}%
11825 \Hy@DisableOption{pdfcreationdate}%
11826 \Hy@DisableOption{pdfmoddate}%
11827 \Hy@DisableOption{pdfproducer}%
11828 \Hy@DisableOption{pdfkeywords}%
11829 \Hy@DisableOption{pdftrapped}%
11830 \Hy@DisableOption{pdfinfo}%
11831 }
11832 \def\PDF@SetupDoc{%
11833 \def\Hy@temp{}%
11834 \ifx\@pdfstartpage\@empty
11835 \else
11836 \ifx\@pdfstartview\@empty
11837 \else
11838 \edef\Hy@temp{%
11839 ,Page=\@pdfstartpage
11840 ,View=\@pdfstartview
11841 }%
11842 \fi
11843 \fi
11844 \edef\Hy@temp{%
11845 \noexpand\pdfmark{%
11846 pdfmark=/DOCVIEW,%
11847 PageMode=/\@pdfpagemode
11848 \Hy@temp
11849 }%
11850 }%
11851 \Hy@temp
11852 \ifx\@pdfpagescrop\@empty
11853 \else
11854 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11855 \fi
11856 \edef\Hy@temp{%
11857 \ifHy@toolbar\else /HideToolbar true\fi
11858 \ifHy@menubar\else /HideMenubar true\fi
11859 \ifHy>windowui\else /HideWindowUI true\fi
11860 \ifHy@fitwindow /FitWindow true\fi

```

```

11861 \ifHy@centerwindow /CenterWindow true\fi
11862 \ifHy@displaydoctitle /DisplayDocTitle true\fi
11863 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11864 \Hy@UseNameKey{Direction}\@pdfdirection
11865 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11866 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11867 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11868 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11869 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11870 \Hy@UseNameKey{Duplex}\@pdfduplex
11871 \ifx\@pdfpicktraybypdfsize\@empty
11872 \else
11873 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11874 \fi
11875 \ifx\@pdfprintpagerange\@empty
11876 \else
11877 /PrintPageRange[\@pdfprintpagerange]%
11878 \fi
11879 \ifx\@pdfnumcopies\@empty
11880 \else
11881 /NumCopies \@pdfnumcopies
11882 \fi
11883 }%
11884 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11885 \pdfmark{%
11886 pdfmark=/PUT,%
11887 Raw={%
11888 \string{Catalog\string}<<%
11889 \ifx\Hy@temp\@empty
11890 \else
11891 /ViewerPreferences<<\Hy@temp>>%
11892 \fi
11893 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11894 \ifx\@pdflang\@empty
11895 \else
11896 /Lang(\@pdflang)%
11897 \fi
11898 \ifx\@baseurl\@empty
11899 \else
11900 /URI<</Base(\Hy@pstringB)>>%
11901 \fi
11902 >>%
11903 }%
11904 }%
11905 }
11906 \providecommand*\@pdfview{XYZ}
11907 \providecommand*\@pdfviewparams{ %
11908 gsave revscl currentpoint grestore %
11909 72 add exch pop null exch null%
11910 }
11911 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to  $\TeX$ .

```

11912 \g@addto@macro\Hy@FirstPageHook{%

```

```

11913 \headerps@out{%
dvipsone lives in scaled points; does this mean 65536 or 65781?
11914 /DvipsToPDF { 65781 div } def%
11915 /PDFToDvips { 65781 mul } def%
11916 /BPToDvips{65781 mul}def%
11917 /HyperBorder { 1 PDFToDvips } def%
11918 /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.

```

11919 /BorderArrayPatch{%
11920   [exch{%
11921     dup dup type/integertype eq exch type/realtype eq or%
11922     {BPToDvips}if%
11923   }forall]%
11924 }def%
11925 /H.S {%
11926   currentpoint %
11927   HyperBorder add /pdf@lly exch def %
11928   dup DvipsToPDF 72 add /pdf@hoff exch def %
11929   HyperBorder sub /pdf@llx exch def%
11930 } def%
11931 /H.L {%
11932   2 sub %
11933   PDFToDvips /HyperBase exch def %
11934   currentpoint %
11935   HyperBase sub /pdf@ury exch def%
11936   /pdf@urx exch def%
11937 } def%
11938 /H.A {%
11939   H.L %
11940   currentpoint exch pop %
11941   HyperBase sub % baseline skip
11942   DvipsToPDF /pdf@voff exch def%
11943 } def%
11944 /H.R {%
11945   currentpoint %
11946   HyperBorder sub /pdf@ury exch def %
11947   HyperBorder add /pdf@urx exch def %
11948   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
11949 } def%
11950 }%
11951 }
11952 (/dvipsone)

```

## 46.13 TeX4ht

```

11953 (*tex4ht)
11954 \providecommand*{\XR@ext}{html}
11955 \def\Hy@raisedlink{}
11956 \@ifpackageloaded{tex4ht}{%
11957   \Hy@InfoNoLine{tex4ht is already loaded}%
11958 }{%
11959   \RequirePackage[htex4ht]{tex4ht}%
11960 }
11961 \hyperlinkfileprefix{}
11962 \def\PDF@FinishDoc{}

```

```

11963 \def\PDF@SetupDoc{%
11964   \ifx\@baseurl\@empty
11965     \else
11966       \special{t4ht=<base href="\@baseurl">}%
11967     \fi
11968 }
11969 \Hy@WrapperDef\hyper@anchor#1{%
11970   \Hy@SaveLastskip
11971   \Hy@VerboseAnchor{#1}%
11972   \begingroup
11973     \let\protect=\string
11974     \special{t4ht=<a name=%
11975       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11976   \endgroup
11977   \Hy@activeanchortrue
11978   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11979   \special{t4ht=</a>}%
11980   \Hy@activeanchorfalse
11981   \Hy@RestoreLastskip
11982 }
11983 \Hy@WrapperDef\hyper@anchorstart#1{%
11984   \Hy@SaveLastskip
11985   \Hy@VerboseAnchor{#1}%
11986   \begingroup
11987     \hyper@chars\special{t4ht=<a name=%
11988       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11989   \endgroup
11990   \Hy@activeanchortrue
11991 }
11992 \def\hyper@anchorend{%
11993   \special{t4ht=</a>}%
11994   \Hy@activeanchorfalse
11995   \Hy@RestoreLastskip
11996 }
11997 \def\@urltype{url}
11998 \def\hyper@linkstart#1#2{%
11999   \Hy@VerboseLinkStart{#1}{#2}%
12000   \expandafter\Hy@colorlink\csname @#1color\endcsname
12001   \def\Hy@tempa{#1}%
12002   \ifx\Hy@tempa\@urltype
12003     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12004   \else
12005     \begingroup
12006       \hyper@chars
12007       \special{t4ht=<a href=%
12008         \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>}%
12009     \endgroup
12010   \fi
12011 }
12012 \def\hyper@linkend{%
12013   \special{t4ht=</a>}%
12014   \Hy@endcolorlink
12015 }
12016 \def\hyper@linkfile#1#2#3{%
12017   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12018 }
12019 \def\hyper@linkurl#1#2{%

```

```

12020 \leavevmode
12021 \ifHy@raiselinks
12022 \Hy@SaveSpaceFactor
12023 \Hy@SaveSavedSpaceFactor
12024 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12025 \Hy@RestoreSavedSpaceFactor
12026 \@linkdim\dp\@tempboxa
12027 \lower\@linkdim\hbox{%
12028   \begingroup
12029   \hyper@chars
12030   \special{%
12031     t4ht=<a href=\hyper@quote#2\hyper@quote>%
12032   }%
12033   \endgroup
12034 }%
12035 \Hy@colorlink\@urlcolor
12036 \Hy@RestoreSpaceFactor
12037 #1%
12038 \Hy@SaveSpaceFactor
12039 \Hy@endcolorlink
12040 \@linkdim\ht\@tempboxa
12041 \advance\@linkdim by -6.5\p@
12042 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12043 \Hy@RestoreSpaceFactor
12044 \else
12045 \begingroup
12046 \hyper@chars
12047 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12048 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
12049 \special{t4ht=</a>}%
12050 \endgroup
12051 \fi
12052 }

```

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

```

12053 \def\hyper@link#1#2#3{%
12054   \Hy@VerboseLinkStart{#1}{#2}%
12055   \hyper@linkurl{#3}{\# \Hy@HyperDestNameFilter{#2}}%
12056 }
12057 \def\hyper@image#1#2{%
12058   \begingroup
12059   \hyper@chars
12060   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12061   \endgroup
12062 }
12063 \let\autoref\ref
12064 \ifx \rEfLiNK \UnDef
12065   \def\rEfLiNK #1#2{#2}%
12066 \fi
12067 \def\backref#1{}

```

Fix for tex4ht.

```

12068 \AtBeginDocument{%
12069   \expandafter\let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12070   \expandafter\def\csname Make:Label\endcsname#1#2{%
12071     \ifhmode
12072       \Hy@SaveSpaceFactor
12073     \else
12074       \global\Hy@SavedSpaceFactor=1000 %

```

```

12075 \fi
12076 \Hy@OrgMakeLabel{#1}{%
12077 \Hy@RestoreSpaceFactor
12078 #2%
12079 \Hy@SaveSpaceFactor
12080 }%
12081 \Hy@RestoreSpaceFactor
12082 }%
12083 }
12084 </tex4ht>
12085 <*tex4htcfg>
12086 \IfFileExists{\jobname.cfg}{\endinput}{}
12087 \Preamble{html}
12088 \begin{document}%
12089 \EndPreamble
12090 \def\TeX{\TeX}
12091 \def\OMEGA{\Omega}
12092 \def\LaTeX{\LaTeX}
12093 \def\LaTeXe{\LaTeX2e}
12094 \def\TeXe{\TeX}
12095 \def\MF{Metafont}
12096 \def\MP{MetaPost}
12097 </tex4htcfg>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

12098 <*pdfmark>
12099 \long\def\@Form[#1]{%
12100 \g@addto@macro\Hy@FirstPageHook{%
12101 \headerps@out{%
12102 [%
12103 /_objdef{pdfDocEncoding}%
12104 /type/dict%
12105 /OBJ pdfmark%
12106 [%
12107 {pdfDocEncoding}%
12108 <<%
12109 /Type/Encoding%
12110 /Differences[%
12111 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12112 /tilde %
12113 39/quotesingle %
12114 96/grave %
12115 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12116 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12117 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12118 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12119 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12120 164/currency %
12121 166/brokenbar %
12122 168/dieresis/copyright/ordfeminine %
12123 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12124 /twosuperior/threesuperior/acute/mu %
12125 183/periodcentered/cedilla/onesuperior/ordmasculine %
12126 188/onequarter/onehalf/threequarters %
12127 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%

```

```

12128      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12129      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12130      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12131      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12132      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12133      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12134      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12135      /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
12136      /ucircumflex/udieresis/yacute/thorn/ydieresis%
12137    ]%
12138    >>%
12139  /PUT pdfmark%
12140 [%
12141   /__objdef{ZaDb}%
12142   /type/dict%
12143 /OBJ pdfmark%
12144 [%
12145   {ZaDb}%
12146   <<%
12147     /Type/Font%
12148     /Subtype/Type1%
12149     /Name/ZaDb%
12150     /BaseFont/ZapfDingbats%
12151   >>%
12152 /PUT pdfmark%
12153 [%
12154   /__objdef{Helv}%
12155   /type/dict%
12156 /OBJ pdfmark%
12157 [%
12158   {Helv}%
12159   <<%
12160     /Type/Font%
12161     /Subtype/Type1%
12162     /Name/Helv%
12163     /BaseFont/Helvetica%
12164     /Encoding{pdfDocEncoding}%
12165   >>%
12166 /PUT pdfmark%
12167 [%
12168   /__objdef{aform}%
12169   /type/dict%
12170 /OBJ pdfmark%
12171 [%
12172   /__objdef{afields}%
12173   /type/array%
12174 /OBJ pdfmark%
12175 {%
12176   [%
12177     /BBox[0 0 100 100]%
12178     /__objdef{Check}%
12179   /BP pdfmark %
12180   1 0 0 setrgbcolor%
12181   /ZapfDingbats 80 selectfont %
12182   20 20 moveto%
12183   (4)show%
12184   [/EP pdfmark%

```

```

12185 [%
12186   /BBox[0 0 100 100]%
12187   /_objdef{Cross}%
12188 /BP pdfmark %
12189 1 0 0 setrgbcolor%
12190 /ZapfDingbats 80 selectfont %
12191 20 20 moveto%
12192 (8)show%
12193 [/EP pdfmark%
12194 [%
12195   /BBox[0 0 250 100]%
12196   /_objdef{Submit}%
12197 /BP pdfmark %
12198 0.6 setgray %
12199 0 0 250 100 rectfill %
12200 1 setgray %
12201 2 2 moveto %
12202 2 98 lineto %
12203 248 98 lineto %
12204 246 96 lineto %
12205 4 96 lineto %
12206 4 4 lineto %
12207 fill %
12208 0.34 setgray %
12209 248 98 moveto %
12210 248 2 lineto %
12211 2 2 lineto %
12212 4 4 lineto %
12213 246 4 lineto %
12214 246 96 lineto %
12215 fill%
12216 /Helvetica 76 selectfont %
12217 0 setgray %
12218 8 22.5 moveto%
12219 (Submit)show%
12220 [/EP pdfmark%
12221 [%
12222   /BBox[0 0 250 100]%
12223   /_objdef{SubmitP}%
12224 /BP pdfmark %
12225 0.6 setgray %
12226 0 0 250 100 rectfill %
12227 0.34 setgray %
12228 2 2 moveto %
12229 2 98 lineto %
12230 248 98 lineto %
12231 246 96 lineto %
12232 4 96 lineto %
12233 4 4 lineto %
12234 fill %
12235 1 setgray %
12236 248 98 moveto %
12237 248 2 lineto %
12238 2 2 lineto %
12239 4 4 lineto %
12240 246 4 lineto %
12241 246 96 lineto %

```

```

12242 fill%
12243 /Helvetica 76 selectfont %
12244 0 setgray %
12245 10 20.5 moveto%
12246 (Submit)show%
12247 [/EP pdfmark%
12248 } ?pdfmark%
12249 [%
12250 {aform}%
12251 <<%
12252 /Fields{afields}%
12253 /DR<<%
12254 /Font<<%
12255 /ZaDb{ZaDb}%
12256 /Helv{Helv}%
12257 >>%
12258 >>%
12259 /DA(/Helv 10 Tf 0 g)%
12260 /CO{corder}%
12261 \ifHy@pdfa
12262 \else
12263 \ifHyField@NeedAppearances
12264 /NeedAppearances true%
12265 \fi
12266 \fi
12267 >>%
12268 /PUT pdfmark%
12269 [%
12270 {Catalog}%
12271 <<%
12272 /AcroForm{aform}%
12273 >>%
12274 /PUT pdfmark%
12275 [%
12276 /__objdef{corder}%
12277 /type/array%
12278 /OBJ pdfmark% dps
12279 }}%
12280 \kvsetkeys{Form}{#1}%
12281 }
12282 \def\@endForm{}
12283 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12284 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12285 }
12286 \def\@TextField[#1]#2{% parameters, label
12287 \def\Fld@name{#2}%
12288 \def\Fld@default{}%
12289 \let\Fld@value\@empty
12290 \def\Fld@width{\DefaultWidthofText}%
12291 \def\Fld@height{%
12292 \ifFld@multiline
12293 \DefaultHeightofTextMultiline
12294 \else
12295 \DefaultHeightofText
12296 \fi
12297 }%
12298 \begingroup

```

```

12299 \expandafter\HyField@SetKeys\expandafter{%
12300 \DefaultOptionsofText,#1%
12301 }%
12302 \HyField@FlagsText
12303 \ifFld@hidden\def\Fld@width{1sp}\fi
12304 \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
12305 \LayoutTextField{#2}{%
12306 \Hy@escapeform\PDFForm@Text
12307 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
12308 pdfmark=/ANN,Raw={\PDFForm@Text}%
12309 }%
12310 }%
12311 \endgroup
12312 }
12313 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12314 \def\Fld@name{#2}%
12315 \let\Fld@default\relax
12316 \let\Fld@value\relax
12317 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12318 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12319 \begingroup
12320 \Fld@menulength=0 %
12321 \@tempdima\z@
12322 \@for\@curropt:=#3\do{%
12323 \expandafter\Fld@checkequals\@curropt==\%
12324 \Hy@StepCount\Fld@menulength
12325 \settowidth{\@tempdimb}{\@currDisplay}%
12326 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12327 }%
12328 \advance\@tempdima by 15\p@
12329 \begingroup
12330 \HyField@SetKeys{#1}%
12331 \edef\x{\endgroup
12332 \noexpand\expandafter
12333 \noexpand\HyField@SetKeys
12334 \noexpand\expandafter{%
12335 \expandafter\noexpand\csname DefaultOptionsof%
12336 \ifFld@radio
12337 Radio%
12338 \else
12339 \ifFld@combo
12340 \ifFld@popdown
12341 PopdownBox%
12342 \else
12343 ComboBox%
12344 \fi
12345 \else
12346 ListBox%
12347 \fi
12348 \fi
12349 \endcsname
12350 }%
12351 }\x
12352 \HyField@SetKeys{#1}%
12353 \ifFld@hidden\def\Fld@width{1sp}\fi
12354 \ifx\Fld@value\relax
12355 \let\Fld@value\Fld@default

```

```

12356 \fi
12357 \LayoutChoiceField{#2}{%
12358 \ifFld@radio
12359 \HyField@FlagsRadioButton
12360 \@@Radio{#3}%
12361 \else
12362 \beginngroup
12363 \HyField@FlagsChoice
12364 \ifdim\Fld@width<\@tempdima
12365 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12366 \edef\Fld@width{\the\@tempdima}%
12367 \fi
12368 \ifFld@combo
12369 \else
12370 \@tempdima=\the\Fld@menulength\Fld@charsize
12371 \advance\@tempdima by \Fld@borderwidth bp %
12372 \advance\@tempdima by \Fld@borderwidth bp %
12373 \edef\Fld@height{\the\@tempdima}%
12374 \fi
12375 \@@ListBox{#3}%
12376 \endgroup
12377 \fi
12378 }%
12379 \endgroup
12380 }
12381 \def\@@Radio#1{%
12382 \Fld@listcount=0 %
12383 \EdefEscapeName\Fld@default{\Fld@default}%
12384 \@for\@curropt:=#1\do{%
12385 \expandafter\Fld@checkequals\@curropt==\%
12386 \EdefEscapeName\@currValue{\@currValue}%
12387 \Hy@StepCount\Fld@listcount
12388 \@currDisplay\space
12389 \Hy@escapeform\PDFForm@Radio
12390 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12391 pdfmark=/ANN,%
12392 Raw={%
12393 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12394 }%
12395 } % deliberate space between radio buttons
12396 }%
12397 }
12398 \newcount\Fld@listcount
12399 \def\@@ListBox#1{%
12400 \HyField@PDFChoices{#1}%
12401 \Hy@escapeform\PDFForm@List
12402 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12403 pdfmark=/ANN,Raw={\PDFForm@List}%
12404 }%
12405 }
12406 \def\@PushButton[#1]#2{% parameters, label
12407 \def\Fld@name{#2}%
12408 \beginngroup
12409 \expandafter\HyField@SetKeys\expandafter{%
12410 \DefaultOptionsofPushButton,#1%
12411 }%
12412 \ifHy@pdfa

```

```

12413 \Hy@Error{%
12414   PDF/A: Push button with JavaScript is prohibited%
12415 } \@ehc
12416 \LayoutPushButtonField{%
12417   \leavevmode
12418   \MakeButtonField{#2}%
12419 }%
12420 \else
12421   \HyField@FlagsPushButton
12422   \ifFld@hidden\def\Fld@width{1sp}\fi
12423   \LayoutPushButtonField{%
12424     \leavevmode
12425     \Hy@escapeform\PDFForm@Push
12426     \pdfmark[\MakeButtonField{#2}]{%
12427       pdfmark=/ANN,Raw={\PDFForm@Push}%
12428     }%
12429   }%
12430 \fi
12431 \endgroup
12432 }
12433 \def\@Submit[#1]#2{%
12434   \def\Fld@width{\DefaultWidthofSubmit}%
12435   \def\Fld@height{\DefaultHeightofSubmit}%
12436   \begingroup
12437     \expandafter\HyField@SetKeys\expandafter{%
12438       \DefaultOptionsofSubmit,#1%
12439     }%
12440     \HyField@FlagsPushButton
12441     \HyField@FlagsSubmit
12442     \ifFld@hidden\def\Fld@width{1sp}\fi
12443     \Hy@escapeform\PDFForm@Submit
12444     \pdfmark[\MakeButtonField{#2}]{%
12445       pdfmark=/ANN,%
12446       Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12447     }%
12448   \endgroup
12449 }
12450 \def\@Reset[#1]#2{%
12451   \def\Fld@width{\DefaultWidthofReset}%
12452   \def\Fld@height{\DefaultHeightofReset}%
12453   \begingroup
12454     \expandafter\HyField@SetKeys\expandafter{%
12455       \DefaultOptionsofReset,#1%
12456     }%
12457     \leavevmode
12458     \ifHy@pdfa
12459       \Hy@Error{%
12460         PDF/A: Reset action is prohibited%
12461       } \@ehc
12462       \MakeButtonField{#2}%
12463     \else
12464       \HyField@FlagsPushButton
12465       \ifFld@hidden\def\Fld@width{1sp}\fi
12466       \Hy@escapeform\PDFForm@Reset
12467       \pdfmark[\MakeButtonField{#2}]{%
12468         pdfmark=/ANN,Raw={\PDFForm@Reset}%
12469       }%

```

```

12470 \fi
12471 \endgroup
12472 }%
12473 \def\@CheckBox[#1]#2{% parameters, label
12474 \def\Fld@name{#2}%
12475 \def\Fld@default{0}%
12476 \begingroup
12477 \def\Fld@width{\DefaultWidthofCheckBox}%
12478 \def\Fld@height{\DefaultHeightofCheckBox}%
12479 \expandafter\HyField@SetKeys\expandafter{%
12480 \DefaultOptionsofCheckBox,#1%
12481 }%
12482 \HyField@FlagsCheckBox
12483 \ifFld@hidden\def\Fld@width{1sp}\fi
12484 \LayoutCheckField{#2}{%
12485 \Hy@escapeform\PDFForm@Check
12486 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
12487 pdfmark=/ANN,Raw={\PDFForm@Check}%
12488 }%
12489 }%
12490 \endgroup
12491 }
12492 \pdfmark>

```

## 47.2 HyperTeX

```

12493 <*hypertex>
12494 \def\@Form[#1]{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12495 \def\@endForm{}
12496 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12497 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12498 }
12499 \def\@TextField[#1]#2{% parameters, label
12500 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12501 }
12502 \def\@CheckBox[#1]#2{% parameters, label
12503 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12504 }
12505 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12506 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12507 }
12508 \def\@PushButton[#1]#2{% parameters, label
12509 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12510 }
12511 \def\@Reset[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12512 \def\@Submit[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12513 </hypertex>

```

## 47.3 TeX4ht

```

12514 <*tex4ht>
12515 \def\@Form[#1]{%
12516 \kvsetkeys{Form}{#1}%
12517 \HCode{<form action="\Form@action" method="\Form@method">}%
12518 }
12519 \def\@endForm{\HCode{</form>}}
12520 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12521 \Hy@Message{Sorry, TeX4ht does not support gauges}%
12522 }

```

```

12523 \def\@TextField[#1]#2{% parameters, label
12524   \let\Hy@reserved@a\@empty
12525   \def\Fld@name{#2}%
12526   \def\Fld@default{}%
12527   \bgroup
12528     \Field@toks={ }%
12529     \kvsetkeys{Field}{#1}%
12530     \HCode{<label for="\Fld@name">#2</label>}%
12531     \ifFld@password
12532       \@@PasswordField
12533     \else
12534       \@@TextField
12535     \fi
12536   \egroup
12537 }
12538 \def\@@PasswordField{%
12539   \HCode{%
12540     <input type="password" %
12541       id="\Fld@name" %
12542       name="\Fld@name" %
12543       \ifFld@hidden type="hidden" \fi
12544       value="\Fld@default" %
12545       \the\Field@toks
12546     >%
12547   }%
12548 }
12549 \def\@@TextField{%
12550   \ifFld@multiline
12551     \HCode{<textarea %
12552       \ifFld@readonly readonly \fi
12553       id="\Fld@name" %
12554       name="\Fld@name" %
12555       \ifFld@hidden type="hidden" \fi
12556       \the\Field@toks>%
12557   }%
12558   \Fld@default
12559   \HCode{</textarea>}%
12560 \else
12561   \HCode{<input type="text" %
12562     \ifFld@readonly readonly \fi
12563     id="\Fld@name" %
12564     name="\Fld@name" %
12565     \ifFld@hidden type="hidden" \fi
12566     value="\Fld@default" %
12567     \the\Field@toks>%
12568   }%
12569 \fi
12570 }
12571 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12572   \def\Fld@name{#2}%
12573   \def\Fld@default{}%
12574   \let\Hy@reserved@a\relax
12575   \begingroup
12576     \expandafter\Fld@findlength#3\\%
12577     \Field@toks={ }%
12578     \kvsetkeys{Field}{#1}%
12579     #2%

```

```

12580 \ifFld@radio
12581 \expandafter\@@Radio#3\\%
12582 \else
12583 \expandafter\@@Menu#3\\%
12584 \fi
12585 \endgroup
12586 }
12587 \def\Fld@findlength#1\\{%
12588 \Fld@menulength=0 %
12589 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12590 }
12591 \def\@@Menu#1\\{%
12592 \HCode{<select size="\the\Fld@menulength" %
12593 name="\Fld@name" %
12594 \the\Field@toks>%
12595 }%
12596 \@for\@curropt:=#1\do{%
12597 \expandafter\Fld@checkequals\@curropt==\\%
12598 \HCode{<option %
12599 \ifx\@curropt\Fld@default selected \fi
12600 value="\@currValue">\@currDisplay</option>%
12601 }%
12602 }%
12603 \HCode{</select>}}%
12604 }
12605 \def\@@Radio#1\\{%
12606 \@for\@curropt:=#1\do{%
12607 \expandafter\Fld@checkequals\@curropt==\\%
12608 \HCode{<input type="radio" %
12609 \ifx\@curropt\Fld@default checked \fi
12610 name="\Fld@name" %
12611 value="\@currValue" %
12612 \the\Field@toks>%
12613 }%
12614 \@currDisplay
12615 }%
12616 }
12617 \def\@PushButton[#1]#2{% parameters, label
12618 \def\Fld@name{#2}%
12619 \bgroup
12620 \Field@toks={ }%
12621 \kvsetkeys{Field}{#1}%
12622 \HCode{<input type="button" %
12623 name="\Fld@name" %
12624 value="#2" %
12625 \the\Field@toks>%
12626 }%
12627 \HCode{</button>}}%
12628 \egroup
12629 }
12630 \def\@Submit[#1]#2{%
12631 \HCode{<button type="submit">#2</button>}}%
12632 }
12633 \def\@Reset[#1]#2{%
12634 \HCode{<button type="reset">#2</button>}}%
12635 }
12636 \def\@CheckBox[#1]#2{% parameters, label

```

```

12637 \let\Hy@reserved@a\@empty
12638 \def\Fld@name{#2}%
12639 \def\Fld@default{0}%
12640 \bgroup
12641 \Field@toks={ }%
12642 \kvsetkeys{Field}{#1}%
12643 \HCode{<input type="checkbox" %
12644 \ifFld@checked checked \fi
12645 \ifFld@disabled disabled \fi
12646 \ifFld@readonly readonly \fi
12647 name="\Fld@name" %
12648 \ifFld@hidden type="hidden" \fi
12649 value="\Fld@default" %
12650 \the\Field@toks>%
12651 #2%
12652 }%
12653 \egroup
12654 }
12655 </tex4ht>

```

## 47.4 pdfTeX

```

12656 <*pdftex>
12657 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12658 \Hy@Message{Sorry, pdftex does not support FORM gauges}%
12659 }
12660 \def\MakeFieldObject#1#2{\sbox0{#1}%
12661 \immediate\pdfxform0 %
12662 \expandafter\edef\csname #2Object\endcsname{%
12663 \the\pdfastxform\space 0 R%
12664 }%
12665 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}%
12666 }%
12667 \def\HyField@afields{}
12668 \begingroup\expandafter\expandafter\expandafter\endgroup
12669 \expandafter\ifx\csname pdfastlink\endcsname\relax
12670 \let\HyField@AddToFields\relax
12671 \PackageInfo{hyperref}{%
12672 You need pdfTeX 1.40.0 for setting the /Fields entry.%
12673 \MessageBreak
12674 Adobe Reader/Acrobat accepts an empty /Field array,%
12675 \MessageBreak
12676 but other PDF viewers might complain%
12677 }%
12678 \else
12679 \def\HyField@AuxAddToFields#1{%
12680 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
12681 \Hy@AtBeginDocument{%
12682 \if@filesw
12683 \immediate\write\@mainaux{%
12684 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12685 }%
12686 \fi
12687 \let\HyField@AfterAuxOpen\@firstofone
12688 \def\HyField@AuxAddToFields#1{%
12689 \xdef\HyField@afields{%
12690 \ifx\HyField@afields\@empty
12691 \else

```

```

12692     \HyField@afields
12693     \space
12694     \fi
12695     #1 0 R%
12696   }%
12697 }%
12698 }%
12699 \def\HyField@AddToFields{%
12700   \expandafter\HyField@@AddToFields\expandafter{%
12701     \the\pdfastlink
12702   }%
12703 }%
12704 \def\HyField@@AddToFields#1{%
12705   \HyField@AfterAuxOpen{%
12706     \if@filesw
12707       \write\@mainaux{%
12708         \string\HyField@AuxAddToFields{#1}%
12709       }%
12710     \fi
12711   }%
12712 }%
12713 \fi
12714 \def\@Form[#1]{%
12715   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12716   \kvsetkeys{Form}{#1}%
12717   \pdf@ifdraftmode{}{%
12718     \Hy@FormObjects
12719     \ifnum\pdfTeXversion>13 %
12720       \pdfrefobj\OBJ@pdfdocencoding
12721       \pdfrefobj\OBJ@ZaDb
12722       \pdfrefobj\OBJ@Helv
12723     \fi
12724     \AtVeryEndDocument{%
12725       \immediate\pdfobj{%
12726         <<%
12727           /Fields[\HyField@afields]%
12728           /DR<<%
12729             /Font<<%
12730               /ZaDb \OBJ@ZaDb\space 0 R%
12731               /Helv \OBJ@Helv\space 0 R%
12732             >>%
12733           >>%
12734           /DA(/Helv 10 Tf 0 g)%
12735           \ifHy@pdfa
12736           \else
12737             \ifHyField@NeedAppearances
12738               /NeedAppearances true%
12739             \fi
12740           \fi
12741         >>%
12742       }%
12743       \edef\OBJ@acroform{\the\pdfastobj}%
12744       \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
12745     }%
12746   }%
12747   \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

12748 \begingroup
12749 \fontfamily{pzd}%
12750 \fontencoding{U}%
12751 \fontseries{m}%
12752 \fontshape{n}%
12753 \selectfont
12754 \char123 %
12755 \endgroup
12756 }{Ding}%
12757 \MakeFieldObject{%
12758 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
12759 }{Submit}%
12760 \MakeFieldObject{%
12761 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
12762 }{SubmitP}%
12763 }
12764 \def\@endForm{}
12765 \def\@TextField[#1]#2{% parameters, label
12766 \def\Fld@name{#2}%
12767 \def\Fld@default{}%
12768 \let\Fld@value\@empty
12769 \def\Fld@width{\DefaultWidthofText}%
12770 \def\Fld@height{%
12771 \ifFld@multiline
12772 \DefaultHeightofTextMultiline
12773 \else
12774 \DefaultHeightofText
12775 \fi
12776 }%
12777 \begingroup
12778 \expandafter\HyField@SetKeys\expandafter{%
12779 \DefaultOptionsofText,#1%
12780 }%
12781 \PDFForm@Name
12782 \HyField@FlagsText
12783 \ifFld@hidden\def\Fld@width{1sp}\fi
12784 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12785 \LayoutTextField{#2}{%
12786 \Hy@escapeform\PDFForm@Text
12787 \pdfstartlink user {\PDFForm@Text}\relax
12788 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
12789 \HyField@AddToFields
12790 }%
12791 \endgroup
12792 }
12793 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12794 \def\Fld@name{#2}%
12795 \let\Fld@default\relax
12796 \let\Fld@value\relax
12797 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12798 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12799 \begingroup
12800 \Fld@menulength=0 %
12801 \@tempdima\z@
12802 \@for\@curropt=#3\do{%
12803 \expandafter\Fld@checkequals\@curropt==\%
12804 \Hy@StepCount\Fld@menulength

```

```

12805 \settowidth{\@tempdimb}{\@currDisplay}%
12806 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12807 }%
12808 \advance\@tempdima by 15\p@
12809 \begingroup
12810 \HyField@SetKeys{#1}%
12811 \edef\x{\endgroup
12812 \noexpand\expandafter
12813 \noexpand\HyField@SetKeys
12814 \noexpand\expandafter{%
12815 \expandafter\noexpand\csname DefaultOptionsof%
12816 \ifFld@radio
12817 Radio%
12818 \else
12819 \ifFld@combo
12820 \ifFld@popdown
12821 PopdownBox%
12822 \else
12823 ComboBox%
12824 \fi
12825 \else
12826 ListBox%
12827 \fi
12828 \fi
12829 \endcsname
12830 }%
12831 }\x
12832 \HyField@SetKeys{#1}%
12833 \PDFForm@Name
12834 \ifFld@hidden\def\Fld@width{1sp}\fi
12835 \ifx\Fld@value\relax
12836 \let\Fld@value\Fld@default
12837 \fi
12838 \LayoutChoiceField{#2}{%
12839 \ifFld@radio
12840 \HyField@FlagsRadioButton
12841 \@@Radio{#3}%
12842 \else
12843 \begingroup
12844 \HyField@FlagsChoice
12845 \ifdim\Fld@width<\@tempdima
12846 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12847 \edef\Fld@width{\the\@tempdima}%
12848 \fi
12849 \ifFld@combo
12850 \else
12851 \@tempdima=\the\Fld@menulength\Fld@charsize
12852 \advance\@tempdima by \Fld@borderwidth bp %
12853 \advance\@tempdima by \Fld@borderwidth bp %
12854 \edef\Fld@height{\the\@tempdima}%
12855 \fi
12856 \@@ListBox{#3}%
12857 \endgroup
12858 \fi
12859 }%
12860 \endgroup
12861 }

```

```

12862 \def\@@Radio#1{%
12863   \Fld@listcount=0 %
12864   \EdefEscapeName\Fld@default{\Fld@default}%
12865   \@for\@curropt:=#1\do{%
12866     \expandafter\Fld@checkequals\@curropt==\%
12867     \EdefEscapeName\@currValue{\@currValue}%
12868     \Hy@StepCount\Fld@listcount
12869     \@currDisplay\space
12870     \leavevmode
12871     \Hy@escapeform\PDFForm@Radio
12872     \pdfstartlink user {%
12873       \PDFForm@Radio
12874       /AP<<%
12875       /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.

```

12876       /\@currValue\space \DingObject
12877       >>%
12878       >>%
12879     }%
12880     \relax
12881     \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
12882     \ifnum\Fld@listcount=1 %
12883       \HyField@AddToFields
12884     \fi
12885     \space % deliberate space between radio buttons
12886   }%
12887 }
12888 \newcount\Fld@listcount
12889 \def\@@ListBox#1{%
12890   \HyField@PDFChoices{#1}%
12891   \leavevmode
12892   \Hy@escapeform\PDFForm@List
12893   \pdfstartlink user {\PDFForm@List}\relax
12894   \MakeChoiceField{\Fld@width}{\Fld@height}%
12895   \pdfendlink
12896   \HyField@AddToFields
12897 }
12898 \def\@PushButton[#1]#2{% parameters, label
12899   \def\Fld@name{#2}%
12900   \begingroup
12901     \expandafter\HyField@SetKeys\expandafter{%
12902       \DefaultOptionsofPushButton,#1%
12903     }%
12904     \PDFForm@Name
12905     \ifHy@pdfa
12906       \Hy@Error{%
12907         PDF/A: Push button with JavaScript is prohibited%
12908       }\@ehc
12909       \LayoutPushButtonField{%
12910         \leavevmode
12911         \MakeButtonField{#2}%
12912       }%
12913     \else
12914       \HyField@FlagsPushButton
12915       \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

12916 \LayoutPushButtonField{%
12917 \leavevmode
12918 \Hy@escapeform\PDFForm@Push
12919 \pdfstartlink user {\PDFForm@Push}\relax
12920 \MakeButtonField{#2}%
12921 \pdfendlink
12922 \HyField@AddToFields
12923 }%
12924 \fi
12925 \endgroup
12926 }
12927 \def\@Submit[#1]#2{%
12928 \def\Fld@width{\DefaultWidthofSubmit}%
12929 \def\Fld@height{\DefaultHeightofSubmit}%
12930 \begingroup
12931 \expandafter\HyField@SetKeys\expandafter{%
12932 \DefaultOptionsofSubmit,#1%
12933 }%
12934 \HyField@FlagsPushButton
12935 \HyField@FlagsSubmit
12936 \ifFld@hidden\def\Fld@width{1sp}\fi
12937 \leavevmode
12938 \Hy@escapeform\PDFForm@Submit
12939 \pdfstartlink user {%
12940 \PDFForm@Submit
12941 /AP<</N \SubmitObject/D \SubmitPObject>>%
12942 }%
12943 \relax
12944 \MakeButtonField{#2}%
12945 \pdfendlink
12946 \HyField@AddToFields
12947 \endgroup
12948 }
12949 \def\@Reset[#1]#2{%
12950 \def\Fld@width{\DefaultWidthofReset}%
12951 \def\Fld@height{\DefaultHeightofReset}%
12952 \begingroup
12953 \expandafter\HyField@SetKeys\expandafter{%
12954 \DefaultOptionsofReset,#1%
12955 }%
12956 \leavevmode
12957 \ifHy@pdfa
12958 \Hy@Error{%
12959 PDF/A: Reset action is prohibited%
12960 }\@ehc
12961 \MakeButtonField{#2}%
12962 \else
12963 \HyField@FlagsPushButton
12964 \ifFld@hidden\def\Fld@width{1sp}\fi
12965 \Hy@escapeform\PDFForm@Reset
12966 \pdfstartlink user {\PDFForm@Reset}\relax
12967 \MakeButtonField{#2}%
12968 \pdfendlink
12969 \HyField@AddToFields
12970 \fi
12971 \endgroup
12972 }

```

```

12973 \def\@CheckBox[#1]#2{% parameters, label
12974   \def\Fld@name{#2}%
12975   \def\Fld@default{0}%
12976   \begingroup
12977     \def\Fld@width{\DefaultWidthofCheckBox}%
12978     \def\Fld@height{\DefaultHeightofCheckBox}%
12979     \expandafter\HyField@SetKeys\expandafter{%
12980       \DefaultOptionsofCheckBox,#1%
12981     }%
12982     \PDFForm@Name
12983     \HyField@FlagsCheckBox
12984     \ifFld@hidden\def\Fld@width{1sp}\fi
12985     \LayoutCheckField{#2}{%
12986       \Hy@escapeform\PDFForm@Check
12987       \pdfstartlink user {\PDFForm@Check}\relax
12988       \MakeCheckField{\Fld@width}{\Fld@height}%
12989       \pdfendlink
12990       \HyField@AddToFields
12991     }%
12992   \endgroup
12993 }
12994 \def\Hy@FormObjects{%
12995   \pdfobj {%
12996     <<%
12997       /Type/Encoding%
12998       /Differences%
12999         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13000         /ring/tilde %
13001         39/quotesingle %
13002         96/grave %
13003         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13004         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13005         /quotedblbase/quotedblleft/quotedblright/quoteleft%
13006         /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13007         /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13008         164/currency %
13009         166/brokenbar %
13010         168/dieresis/copyright/ordfeminine %
13011         172/logicalnot/.notdef/registered/macron/degree/plusminus%
13012         /twosuperior/threesuperior/acute/mu %
13013         183/periodcentered/cedilla/onesuperior/ordmasculine %
13014         188/onequarter/onehalf/threequarters %
13015         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13016         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13017         /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13018         /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13019         /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13020         /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13021         /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13022         /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13023         /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13024         /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13025     ]%
13026     >>%
13027   }%
13028   \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
13029   \pdfobj{%

```

```

13030 <<%
13031 /Type/Font%
13032 /Subtype/Type1%
13033 /Name/ZaDb%
13034 /BaseFont/ZapfDingbats%
13035 >>%
13036 }%
13037 \xdef\OBJ@ZaDb{\the\pdfastobj}%
13038 \pdfobj{%
13039 <<%
13040 /Type/Font%
13041 /Subtype/Type1%
13042 /Name/Helv%
13043 /BaseFont/Helvetica%
13044 /Encoding \OBJ@pdfdocencoding\space 0 R%
13045 >>%
13046 }%
13047 \xdef\OBJ@Helv{\the\pdfastobj}%
13048 \global\let\Hy@FormObjects\relax
13049 }
13050 \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.

```

13051 \*dvipdfm | xetex

```

\@Gauge

```

13052 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13053 \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13054 }

```

\@Form

```

13055 \def\@Form[#1]{%
13056 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13057 \kvsetkeys{Form}{#1}%
13058 \Hy@FormObjects
13059 \@pdfm@mark{obj @afields []}%
13060 \@pdfm@mark{obj @corder []}%
13061 \@pdfm@mark{%
13062 obj @aform <<%
13063 /Fields @afields%
13064 /DR<<%
13065 /Font<<%
13066 /ZaDb @OBJZaDb%
13067 /Helv @OBJHelv%
13068 >>%
13069 >>%
13070 /DA(/Helv 10 Tf 0 g)%
13071 /CO @corder%
13072 \ifHy@pdfa
13073 \else
13074 \ifHyField@NeedAppearances
13075 /NeedAppearances true%
13076 \fi
13077 \fi

```

```

13078   >>%
13079   }%
13080   \@pdfm@mark{put @catalog <</AcroForm @aform>>}}%
13081 }

```

\@endForm

```

13082 \def\@endForm{}

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

13083 \def\dvipdfm@setdim{%
13084   height \the\ht\pdfm@box\space
13085   width \the\wd\pdfm@box\space
13086   depth \the\dp\pdfm@box\space
13087 }

```

\HyField@AnnotCount

```

13088 \newcount\HyField@AnnotCount
13089 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

13090 \def\HyField@AdvanceAnnotCount{%
13091   \global\advance\HyField@AnnotCount\@ne
13092 }

```

\HyField@TheAnnotCount

```

13093 \def\HyField@TheAnnotCount{%
13094   \the\HyField@AnnotCount
13095 }

```

\@TextField

```

13096 \def\@TextField[#1]#2{% parameters, label
13097   \def\Fld@name{#2}%
13098   \def\Fld@default{}%
13099   \let\Fld@value\@empty
13100   \def\Fld@width{\DefaultWidthofText}%
13101   \def\Fld@height{%
13102     \ifFld@multiline
13103       \DefaultHeightofTextMultiline
13104     \else
13105       \DefaultHeightofText
13106     \fi
13107   }%
13108   \begingroup
13109     \expandafter\HyField@SetKeys\expandafter{%
13110       \DefaultOptionsofText,#1%
13111     }%
13112   \PDFForm@Name
13113   \HyField@FlagsText
13114   \ifFld@hidden\def\Fld@width{1sp}\fi
13115   \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13116   \setbox\pdfm@box=\hbox{%
13117     \MakeTextField{\Fld@width}{\Fld@height}%
13118   }%
13119   \HyField@AdvanceAnnotCount
13120   \LayoutTextField{#2}{%
13121     \Hy@escapeform\PDFForm@Text

```

```

13122 \pdfmark{%
13123   ann @text\HyField@TheAnnotCount\space
13124   \dvipdfm@setdim << \PDFForm@Text >>%
13125 }%
13126 }%
13127 \unhbox\pdfm@box
13128 \pdfmark{put @afields @text\HyField@TheAnnotCount}%
13129 % record in @afields array
13130 \endgroup
13131 }

```

#### \@ChoiceMenu

```

13132 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13133 \def\Fld@name{#2}%
13134 \let\Fld@default\relax
13135 \let\Fld@value\relax
13136 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13137 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13138 \begingroup
13139 \Fld@menulength=0 %
13140 \@tempdima\z@
13141 \@for\@curropt:=#3\do{%
13142   \expandafter\Fld@checkequals\@curropt==\%
13143   \Hy@StepCount\Fld@menulength
13144   \settowidth{\@tempdimb}{\@currDisplay}%
13145   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13146 }%
13147 \advance\@tempdima by 15\p@
13148 \begingroup
13149 \HyField@SetKeys{#1}%
13150 \edef\x{\endgroup
13151   \noexpand\expandafter
13152   \noexpand\HyField@SetKeys
13153   \noexpand\expandafter{%
13154     \expandafter\noexpand\csname DefaultOptionsof%
13155       \ifFld@radio
13156         Radio%
13157       \else
13158         \ifFld@combo
13159           \ifFld@popdown
13160             PopdownBox%
13161           \else
13162             ComboBox%
13163           \fi
13164         \else
13165           ListBox%
13166         \fi
13167       \fi
13168     \endcsname
13169   }%
13170 }\x
13171 \HyField@SetKeys{#1}%
13172 \PDFForm@Name
13173 \ifFld@hidden\def\Fld@width{1sp}\fi
13174 \ifx\Fld@value\relax
13175   \let\Fld@value\Fld@default
13176 \fi

```

```

13177 \LayoutChoiceField{#2}{%
13178 \ifFld@radio
13179 \HyField@FlagsRadioButton
13180 \@@Radio{#3}%
13181 \else
13182 \beginngroup
13183 \HyField@FlagsChoice
13184 \ifdim\Fld@width<\@tempdima
13185 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13186 \edef\Fld@width{\the\@tempdima}%
13187 \fi
13188 \ifFld@combo
13189 \else
13190 \@tempdima=\the\Fld@menulength\Fld@charsize
13191 \advance\@tempdima by \Fld@borderwidth bp %
13192 \advance\@tempdima by \Fld@borderwidth bp %
13193 \edef\Fld@height{\the\@tempdima}%
13194 \fi
13195 \@@ListBox{#3}%
13196 \endgroup
13197 \fi
13198 }%
13199 \endgroup
13200 }

```

\@@Radio

```

13201 \def\@@Radio#1{%
13202 \Fld@listcount=0 %
13203 \EdefEscapeName\Fld@default{\Fld@default}%
13204 \setbox\pdfm@box=\hbox{%
13205 \MakeRadioField{\Fld@width}{\Fld@height}%
13206 }%
13207 \@for\@curropt:=#1\do{%
13208 \expandafter\Fld@checkequals\@curropt==\%
13209 \EdefEscapeName\@currValue{\@currValue}%
13210 \Hy@StepCount\Fld@listcount
13211 \@currDisplay\space
13212 \leavevmode
13213 \Hy@escapeform\PDFForm@Radio
13214 \ifnum\Fld@listcount=1 %
13215 \HyField@AdvanceAnnotCount
13216 \fi
13217 \@pdfm@mark{%
13218 ann %
13219 \ifnum\Fld@listcount=1 %
13220 @radio\HyField@TheAnnotCount%
13221 \space
13222 \fi
13223 \dvi pdfm@setdim
13224 <<%
13225 \PDFForm@Radio
13226 /AP<</N<</\@currValue /null>>>>%
13227 >>%
13228 }%
13229 \unhcopy\pdfm@box\space% deliberate space between radio buttons
13230 \ifnum\Fld@listcount=1 %
13231 \@pdfm@mark{%

```

```

13232         put @afields @radio\HyField@TheAnnotCount
13233     }%
13234     \fi
13235 }%
13236 }

\Fld@listcount

13237 \newcount\Fld@listcount

@@@Listbox

13238 \def\@@Listbox#1{%
13239     \HyField@PDFChoices{#1}%
13240     \setbox\pdfm@box=\hbox{%
13241         \MakeChoiceField{\Fld@width}{\Fld@height}%
13242     }%
13243     \leavevmode
13244     \Hy@escapeform\PDFForm@List
13245     \HyField@AdvanceAnnotCount
13246     \@pdfm@mark{%
13247         ann @list\HyField@TheAnnotCount\space
13248         \dvipdfm@setdim
13249         <<\PDFForm@List>>%
13250     }%
13251     \unhbox\pdfm@box
13252     \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
13253 }

\@PushButton

13254 \def\@PushButton[#1]#2{% parameters, label
13255     \def\Fld@name{#2}%
13256     \begingroup
13257         \expandafter\HyField@SetKeys\expandafter{%
13258             \DefaultOptionsofPushButton,#1%
13259         }%
13260         \PDFForm@Name
13261         \ifHy@pdfa
13262             \Hy@Error{%
13263                 PDF/A: Push button with JavaScript is prohibited%
13264             }\@ehc
13265             \LayoutPushButtonField{%
13266                 \leavevmode
13267                 \MakeButtonField{#2}%
13268             }%
13269         \else
13270             \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13271             \HyField@FlagsPushButton
13272             \ifFld@hidden\def\Fld@width{1sp}\fi
13273             \HyField@AdvanceAnnotCount
13274             \LayoutPushButtonField{%
13275                 \leavevmode
13276                 \Hy@escapeform\PDFForm@Push
13277                 \@pdfm@mark{%
13278                     ann @push\HyField@TheAnnotCount\space
13279                     \dvipdfm@setdim
13280                     <<\PDFForm@Push>>%
13281                 }%
13282             }%

```

```

13283     \unhbox\pdfm@box
13284     \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
13285     \fi
13286 \endgroup
13287 }

\@Submit
13288 \def\@Submit[#1]#2{%
13289   \def\Fld@width{\DefaultWidthofSubmit}%
13290   \def\Fld@height{\DefaultHeightofSubmit}%
13291   \begingroup
13292     \expandafter\HyField@SetKeys\expandafter{%
13293       \DefaultOptionsofSubmit,#1%
13294     }%
13295     \HyField@FlagsPushButton
13296     \HyField@FlagsSubmit
13297     \ifFld@hidden\def\Fld@width{1sp}\fi
13298     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13299     \leavevmode
13300     \Hy@escapeform\PDFForm@Submit
13301     \HyField@AdvanceAnnotCount
13302     \@pdfm@mark{%
13303       ann @submit\HyField@TheAnnotCount\space
13304       \dvipdfm@setdim
13305       <<\PDFForm@Submit>>%
13306     }%
13307     \unhbox\pdfm@box%
13308     \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
13309 \endgroup
13310 }

\@Reset
13311 \def\@Reset[#1]#2{%
13312   \def\Fld@width{\DefaultWidthofReset}%
13313   \def\Fld@height{\DefaultHeightofReset}%
13314   \begingroup
13315     \expandafter\HyField@SetKeys\expandafter{%
13316       \DefaultOptionsofReset,#1%
13317     }%
13318     \leavevmode
13319     \ifHy@pdfa
13320       \Hy@Error{%
13321         PDF/A: Reset action is prohibited%
13322       }\@ehc
13323       \MakeButtonField{#2}%
13324     \else
13325       \HyField@FlagsPushButton
13326       \ifFld@hidden\def\Fld@width{1sp}\fi
13327       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13328       \Hy@escapeform\PDFForm@Reset
13329       \HyField@AdvanceAnnotCount
13330       \@pdfm@mark{%
13331         ann @reset\HyField@TheAnnotCount\space
13332         \dvipdfm@setdim
13333         <<\PDFForm@Reset>>%
13334       }%
13335       \unhbox\pdfm@box

```

```

13336 \pdfmark{put @afields @reset\HyField@TheAnnotCount}%
13337 \fi
13338 \endgroup
13339 }

```

\@CheckBox

```

13340 \def\@CheckBox[#1]#2{% parameters, label
13341 \def\Fld@name{#2}%
13342 \def\Fld@default{0}%
13343 \begingroup
13344 \def\Fld@width{\DefaultWidthofCheckBox}%
13345 \def\Fld@height{\DefaultHeightofCheckBox}%
13346 \expandafter\HyField@SetKeys\expandafter{%
13347 \DefaultOptionsofCheckBox,#1%
13348 }%
13349 \PDFForm@Name
13350 \HyField@FlagsCheckBox
13351 \ifFld@hidden\def\Fld@width{1sp}\fi
13352 \setbox\pdfm@box=\hbox{%
13353 \MakeCheckField{\Fld@width}{\Fld@height}%
13354 }%
13355 \HyField@AdvanceAnnotCount
13356 \LayoutCheckField{#2}{%
13357 \Hy@escapeform\PDFForm@Check
13358 \@pdfmark{%
13359 ann @check\HyField@TheAnnotCount\space
13360 \dvipdfm@setdim
13361 <<\PDFForm@Check>>%
13362 }%
13363 \unhbox\pdfm@box
13364 \@pdfmark{put @afields @check\HyField@TheAnnotCount}%
13365 }%
13366 \endgroup
13367 }

13368 \def\Hy@FormObjects{%
13369 \@pdfmark{obj @OBJpdfdocencoding%
13370 <<%
13371 /Type/Encoding%
13372 /Differences%
13373 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13374 39/quotesingle %
13375 96/grave %
13376 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13377 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13378 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13379 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13380 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13381 164/currency %
13382 166/brokenbar %
13383 168/dieresis/copyright/ordfeminine %
13384 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13385 /twosuperior/threesuperior/acute/mu %
13386 183/periodcentered/cedilla/onesuperior/ordmasculine %
13387 188/onequarter/onehalf/threequarters %
13388 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13389 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13390 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%

```

```

13391      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13392      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13393      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13394      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13395      /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
13396      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13397      /thorn/ydieresis%
13398      ]%
13399      >>%
13400    }%
13401    \@pdfm@mark{obj @OBJZaDb%
13402      <<%
13403      /Type/Font%
13404      /Subtype/Type1%
13405      /Name/ZaDb%
13406      /BaseFont/ZapfDingbats%
13407      >>%
13408    }%
13409    \@pdfm@mark{obj @OBJHelv%
13410      <<%
13411      /Type/Font%
13412      /Subtype/Type1%
13413      /Name/Helv%
13414      /BaseFont/Helvetica%
13415      /Encoding @OBJpdfdocencoding%
13416      >>%
13417    }%
13418    \global\let\Hy@FormObjects\relax
13419  }
13420 </dvipdfm | xetex>

```

## 47.6 Common forms part

```

13421 <*pdfform>

```

\Hy@escapestring

```

13422 \begingroup\expandafter\expandafter\expandafter\endgroup
13423 \expandafter\ifx\csname pdfescapestring\endcsname\relax
13424   \let\Hy@escapestring\@firstofone
13425   \def\Hy@escapeform#1{%
13426     \ifHy@escapeform
13427       \def\Hy@escapestring##1{%
13428         \noexpand\Hy@escapestring{\noexpand##1}%
13429       }%
13430     \edef\Hy@temp{#1}%
13431     \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{ }\@nil
13432     \def\Hy@escapestring##1{%
13433       \@ifundefined{Hy@esc@\string##1}{%
13434         ##1%
13435         \ThisShouldNotHappen
13436       }{%
13437         \csname Hy@esc@\string##1\endcsname
13438       }%
13439     }%
13440   \else
13441     \let\Hy@escapestring\@firstofone
13442   \fi

```

```

13443 }%
13444 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
13445   \ifx\#3\%
13446     \else
13447       \expandafter
13448       \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13449       \Hy@ReturnAfterFi{%
13450         \Hy@@escapeform#3\@nil
13451       }%
13452     \fi
13453   }%
13454 \else
13455   \def\Hy@escapeform#1{%
13456     \ifHy@escapeform
13457       \let\Hy@escapestring\pdfescapestring
13458     \else
13459       \let\Hy@escapestring\@firstofone
13460     \fi
13461   }%
13462   \Hy@escapeform}%
13463 \fi

```

#### \PDFForm@Name

```

13464 \def\PDFForm@Name{%
13465   \PDFForm@@Name\Fld@name
13466   \ifx\Fld@altname\relax
13467     \else
13468       \PDFForm@@Name\Fld@altname
13469     \fi
13470   \ifx\Fld@mappingname\relax
13471     \else
13472       \PDFForm@@Name\Fld@mappingname
13473     \fi
13474 }

```

#### \PDFForm@@Name

```

13475 \def\PDFForm@@Name#1{%
13476   \begingroup
13477   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
13478     \ifHy@unicode
13479       \Hy@unicodedefalse
13480     \fi
13481   \fi
13482   \HyPsd@XeTeXBigCharstrue
13483   \pdfstringdef\Hy@gtemp#1%
13484 \endgroup
13485 \let#1\Hy@gtemp
13486 }

```

#### \Fld@additionalactions

```

13487 \def\Fld@@additionalactions{%
K input (keystroke) format
13488   \ifx\Fld@keystroke@code\@empty
13489     \else
13490       /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13491     \fi

```

#### F display format

```
13492 \ifx\Fld@format@code\@empty
13493 \else
13494 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13495 \fi
```

#### V validation

```
13496 \ifx\Fld@validate@code\@empty
13497 \else
13498 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13499 \fi
```

#### C calculation

```
13500 \ifx\Fld@calculate@code\@empty
13501 \else
13502 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13503 \fi
```

#### Fo receiving the input focus

```
13504 \ifx\Fld@onfocus@code\@empty
13505 \else
13506 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13507 \fi
```

#### Bl loosing the input focus (blurred)

```
13508 \ifx\Fld@onblur@code\@empty
13509 \else
13510 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13511 \fi
```

#### D pressing the mouse button (down)

```
13512 \ifx\Fld@onmousedown@code\@empty
13513 \else
13514 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13515 \fi
```

#### U releasing the mouse button (up)

```
13516 \ifx\Fld@onmouseup@code\@empty
13517 \else
13518 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13519 \fi
```

#### E cursor enters the annotation's active area.

```
13520 \ifx\Fld@onenter@code\@empty
13521 \else
13522 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13523 \fi
```

#### X cursor exits the annotation's active area.

```
13524 \ifx\Fld@onexit@code\@empty
13525 \else
13526 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13527 \fi
13528 }
13529 \def\Fld@additionalactions{%
13530 \if\Fld@@additionalactions-%
13531 \else
13532 \ifHy@pdfa
13533 \else
13534 /AA<<\Fld@@additionalactions>>%
```

```

13535   \fi
13536   \fi
13537 }

```

\Fld@annotnames

```

13538 \def\Fld@annotnames{%
13539   /T(\Fld@name)%
13540   \ifx\Fld@altname\relax
13541   \else
13542   /TU(\Fld@altname)%
13543   \fi
13544   \ifx\Fld@mappingname\relax
13545   \else
13546   /TM(\Fld@mappingname)%
13547   \fi
13548 }

```

\PDFForm@Check

```

13549 \def\PDFForm@Check{%
13550   /Subtype/Widget%
13551   \Fld@annotflags
13552   \Fld@annotnames
13553   /FT/Btn%
13554   \Fld@flags
13555   /Q \Fld@align
13556   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13557   /MK<<%
13558   \ifnum\Fld@rotation=\z@
13559   \else
13560   /R \Fld@rotation
13561   \fi
13562   \ifx\Fld@bordercolor\relax
13563   \else
13564   /BC[\Fld@bordercolor]%
13565   \fi
13566   \ifx\Fld@bcolor\relax
13567   \else
13568   /BG[\Fld@bcolor]%
13569   \fi
13570   /CA(\Hy@escapestring{\Fld@cbsymbol})%
13571   >>%
13572   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13573     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13574   /H/P%
13575   \ifFld@checked /V/Yes\else /V/Off\fi
13576   \Fld@additionalactions
13577 }

```

\PDFForm@Push

```

13578 \ifHy@pdfa
13579 \else
13580 \def\PDFForm@Push{%
13581   /Subtype/Widget%
13582   \Fld@annotflags
13583   \Fld@annotnames
13584   /FT/Btn%
13585   \Fld@flags

```

```

13586 /H/P%
13587 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13588 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13589 \ifx\Fld@bordercolor\relax\else 1\fi
13590 \space
13591 \else
13592 /MK<<%
13593 \ifnum\Fld@rotation=\z@
13594 \else
13595 /R \Fld@rotation
13596 \fi
13597 \ifx\Fld@bordercolor\relax
13598 \else
13599 /BC[\Fld@bordercolor]%
13600 \fi
13601 >>%
13602 \fi
13603 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13604 \Fld@additionalactions
13605 }%
13606 \fi

```

\PDFForm@List

```

13607 \def\PDFForm@List{%
13608 /Subtype/Widget%
13609 \Fld@annotflags
13610 \Fld@annotnames
13611 /FT/Ch%
13612 \Fld@flags
13613 /Q \Fld@align
13614 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13615 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13616 \ifx\Fld@bordercolor\relax\else 1\fi
13617 \ifx\Fld@bcolor\relax \else 1\fi
13618 \space
13619 \else
13620 /MK<<%
13621 \ifnum\Fld@rotation=\z@
13622 \else
13623 /R \Fld@rotation
13624 \fi
13625 \ifx\Fld@bordercolor\relax
13626 \else
13627 /BC[\Fld@bordercolor]%
13628 \fi
13629 \ifx\Fld@bcolor\relax
13630 \else
13631 /BG[\Fld@bcolor]%
13632 \fi
13633 >>%
13634 \fi
13635 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13636 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13637 \Fld@choices
13638 \Fld@additionalactions
13639 }

```

## \PDFForm@Radio

```
13640 \def\PDFForm@Radio{%
13641   /Subtype/Widget%
13642   \Fld@annotflags
13643   \Fld@annotnames
13644   /FT/Btn%
13645   \Fld@flags
13646   /H/P%
13647   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13648   /MK<<%
13649     \ifnum\Fld@rotation=\z@
13650     \else
13651       /R \Fld@rotation
13652     \fi
13653     \ifx\Fld@bordercolor\relax
13654     \else
13655       /BC[\Fld@bordercolor]%
13656     \fi
13657     \ifx\Fld@bcolor\relax
13658     \else
13659       /BG[\Fld@bcolor]%
13660     \fi
13661     /CA(\Fld@radiosymbol)%
13662   >>%
13663   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13664     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13665   \ifx\@currValue\Fld@default
13666     /V/\Fld@default
13667     /DV/\Fld@default
13668   \else
13669     /V/Off%
13670     /DV/Off%
13671   \fi
13672   \Fld@additionalactions
13673 }
```

## \PDFForm@Text

```
13674 \def\PDFForm@Text{%
13675   /Subtype/Widget%
13676   \Fld@annotflags
13677   \Fld@annotnames
13678   /FT/Tx%
13679   \Fld@flags
13680   /Q \Fld@align
13681   /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
13682   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13683     \ifx\Fld@bordercolor\relax\else 1\fi
13684     \ifx\Fld@bcolor\relax \else 1\fi
13685     \space
13686   \else
13687     /MK<<%
13688     \ifnum\Fld@rotation=\z@
13689     \else
13690       /R \Fld@rotation
13691     \fi
13692     \ifx\Fld@bordercolor\relax
13693     \else
```

```

13694      /BC[\Fld@bordercolor]%
13695      \fi
13696      \ifx\Fld@bcolor\relax
13697      \else
13698      /BG[\Fld@bcolor]%
13699      \fi
13700      >>%
13701      \fi
13702      /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13703      \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13704      /DV(\Hy@escapestring{\Fld@default})%
13705      /V(\Hy@escapestring{\Fld@value})%
13706      \Fld@additionalactions
13707      \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
13708      }

```

\PDFForm@Submit

```

13709 \def\PDFForm@Submit{%
13710   /Subtype/Widget%
13711   \Fld@annotflags
13712   \Fld@annotnames
13713   /FT/Btn%
13714   \Fld@flags
13715   /H/P%
13716   /BS<</W \Fld@borderwidth/S\Fld@borderstyle>>%
13717   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13718       \ifx\Fld@bordercolor\relax\else 1\fi
13719       \space
13720   \else
13721   /MK<<%
13722       \ifnum\Fld@rotation=\z@
13723       \else
13724       /R \Fld@rotation
13725       \fi
13726       \ifx\Fld@bordercolor\relax
13727       \else
13728       /BC[\Fld@bordercolor]%
13729       \fi
13730       >>%
13731   \fi
13732   /A<<%
13733       /S/SubmitForm%
13734       /F<<%
13735           /FS/URL%
13736           /F(\Hy@escapestring{\Form@action})%
13737       >>%
13738       \Fld@submitflags
13739   >>%
13740   \Fld@additionalactions
13741   }

```

\PDFForm@Reset

```

13742 \ifHy@pdfa
13743 \else
13744   \def\PDFForm@Reset{%
13745     /Subtype/Widget%
13746     \Fld@annotflags

```

```

13747 \Fld@annotnames
13748 /FT/Btn%
13749 \Fld@flags
13750 /H/P%
13751 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
13752 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13753 \ifx\Fld@bordercolor\relax\else 1\fi
13754 \space
13755 \else
13756 /MK<<%
13757 \ifnum\Fld@rotation=\z@
13758 \else
13759 /R \Fld@rotation
13760 \fi
13761 \ifx\Fld@bordercolor\relax
13762 \else
13763 /BC[\Fld@bordercolor]%
13764 \fi
13765 % /CA (Clear)
13766 % /AC (Done)
13767 >>%
13768 \fi
13769 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13770 /A<</S/ResetForm>>%
13771 \Fld@additionalactions
13772 }%
13773 \fi

13774 </pdfform>
13775 <*package>

```

## 48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in  $\LaTeX$  macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@sssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

13776 \def\phantomsection{%
13777 \Hy@MakeCurrentHrefAuto{section*}%
13778 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
13779 }
13780 </package>

```

### 48.1 Bookmarks

```
13781 <*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.

```

13782 \def\Hy@writebookmark#1#2#3#4#5{%
13783   % section number, text, label, level, file
13784   \ifx\WriteBookmarks\relax%
13785   \else
13786     \ifnum#4>\Hy@bookmarksdepth\relax
13787     \else
13788       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
13789     \fi
13790   \fi
13791 }
13792 \def\Hy@currentbookmarklevel{0}
13793 \def\Hy@numberline#1{#1 }
13794 \def\@@writetorep#1#2#3#4#5{%
13795   \begingroup
13796     \edef\Hy@tempa{#5}%
13797     \ifx\Hy@tempa\Hy@bookmarkstype
13798       \edef\Hy@level{#4}%
13799       \ifx\Hy@levelcheck Y%
13800         \@tempcnta\Hy@level\relax
13801         \advance\@tempcnta by -1 %
13802         \ifnum\Hy@currentbookmarklevel<\@tempcnta
13803           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
13804           \advance\@tempcnta by 1 %
13805           \Hy@Warning{%
13806             Difference (\the\@tempcnta) between bookmark levels is %
13807             greater \MessageBreak than one, level fixed%
13808           }%
13809           \@tempcnta\Hy@currentbookmarklevel
13810           \advance\@tempcnta by 1 %
13811           \edef\Hy@level{\the\@tempcnta}%
13812         \fi
13813       \else
13814         \global\let\Hy@levelcheck Y%
13815       \fi
13816       \global\let\Hy@currentbookmarklevel\Hy@level
13817       \@tempcnta\Hy@level\relax
13818       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
13819       \advance\@tempcnta by -1 %
13820       \edef\Hy@tempa{#3}%
13821       \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
13822       \ifx\Hy@tempa\Hy@tempb
13823         \Hy@Warning{%
13824           The anchor of a bookmark and its parent's must not%
13825           \MessageBreak be the same. Added a new anchor%
13826         }%
13827       \phantomsection
13828     \fi
13829     \ifHy@bookmarksnumbered

```

```

13830 \let\numberline\Hy@numberline
13831 \let\booknumberline\Hy@numberline
13832 \let\partnumberline\Hy@numberline
13833 \let\chapternumberline\Hy@numberline
13834 \else
13835 \let\numberline\@gobble
13836 \let\booknumberline\@gobble
13837 \let\partnumberline\@gobble
13838 \let\chapternumberline\@gobble
13839 \fi
13840 \HyPsd@XeTeXBigCharstrue
13841 \pdfstringdef\Hy@tempa{#2}%
13842 \HyPsd@SanitizeForOutFile\Hy@tempa
13843 \if@filesw
13844 \stepcounter{bookmark@seq@number}%
13845 \ifundefined{@outlinefile}{%
13846 }{%
13847 \protected@write\@outlinefile{}{%
13848 \protect\BOOKMARK
13849 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
13850 {\Hy@tempa}\Hy@tempb}%
13851 \@percentchar\space\thebookmark@seq@number
13852 }%
13853 }%
13854 \fi
13855 \fi
13856 \endgroup
13857 }
13858 \newcounter{bookmark@seq@number}

13859 \begingroup
13860 \lccode'('= '{%
13861 \lccode')='}%
13862 \lccode'1=\z@
13863 \lccode'2=\z@
13864 \lccode'3=\z@
13865 \lccode'5=\z@
13866 \lccode'7=\z@
13867 \lccode'#= \z@
13868 \lccode'\'=\z@
13869 \lccode'\{=\z@
13870 \lccode'\}=\z@
13871 \lowercase{%
13872 \endgroup
13873 \def\HyPsd@SanitizeForOutFile#1{%
13874 \@onelevel@sanitize\Hy@tempa
13875 \escapechar'\%
13876 \edef\Hy@tempa{%
13877 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
13878 }%
13879 \edef\Hy@tempa{%
13880 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
13881 }%
13882 }%
13883 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
13884 #1%
13885 \ifx\#2\%
13886 \expandafter\ltx@gobble

```

```

13887 \else
13888 \expandafter\ltx@firstofone
13889 \fi
13890 {%
13891 \string\173%
13892 \HyPsd@SanitizeOut@BraceLeft#2\@nil
13893 }%
13894 }%
13895 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
13896 #1%
13897 \ifx\#2\%
13898 \expandafter\ltx@gobble
13899 \else
13900 \expandafter\ltx@firstofone
13901 \fi
13902 {%
13903 \string\175%
13904 \HyPsd@SanitizeOut@BraceRight#2\@nil
13905 }%
13906 }%
13907 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

13908 \newcommand{\currentpdfbookmark}{%
13909 \pdfbookmark[\Hy@currentbookmarklevel]%
13910 }
13911 \newcommand{\subpdfbookmark}{%
13912 \@tempcnta\Hy@currentbookmarklevel
13913 \Hy@StepCount\@tempcnta
13914 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
13915 }
13916 \newcommand{\belowpdfbookmark}[2]{%
13917 \@tempcnta\Hy@currentbookmarklevel
13918 \Hy@StepCount\@tempcnta
13919 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
13920 \advance\@tempcnta by -1 %
13921 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
13922 }

```

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.

```

13923 \renewcommand\pdfbookmark[3][0]{%
13924 \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
13925 \hyper@anchorstart{#3.#1}\hyper@anchorend
13926 }
13927 \def\BOOKMARK{%
13928 \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
13929 }
13930 \def\@BOOKMARK[#1]{%
13931 \@ifnextchar[{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}%
13932 }

```

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`

```

13933 \RequirePackage{rerunfilecheck}[2009/12/10]
13934 \def\Hy@OutlineRerunCheck{%
13935   \RerunFileCheck{\jobname.out}{%
13936     \immediate\closeout\@outlinefile
13937   }{%
13938     Rerun to get outlines right\MessageBreak
13939     or use package 'bookmark'%
13940   }%
13941 }

```

#### 48.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping \ and the like.

```

13942 \<*vtex>
13943 \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.

```

13944 \begingroup
13945 \catcode'\'=12 %
13946 \ifnum\Hy@VTeXversion<650 %
13947 \catcode'\ "=12 %
13948 \gdef\hv@pdf@char#1#2#3{%
13949   \char
13950   \ifcase'#1#2#3 %
13951     "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
13952     \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
13953     \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
13954     \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
13955     \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
13956     \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
13957     \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
13958     \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
13959     \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
13960     \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
13961     \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
13962     \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
13963     \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
13964     \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
13965     \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
13966     \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
13967     \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
13968     \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
13969     \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
13970     \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
13971     \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
13972     \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
13973     \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
13974     \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
13975     \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
13976     \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
13977     \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%

```

```

13978 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
13979 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
13980 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
13981 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
13982 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
13983 \fi
13984 }%
13985 \else
13986 \gdef\hv@pdf@char{\char'}%
13987 \fi
13988 \endgroup

```

## \@@BOOKMARK

```

13989 \def\@@BOOKMARK[#1][#2]#3#4#5{%
13990 \expandafter\edef\csname @count@#3\endcsname{%
13991 \the\@serial@counter
13992 }%
13993 \edef\@mycount{\the\@serial@counter}%
13994 \Hy@StepCount\@serial@counter
13995 \edef\@parcount{%
13996 \expandafter\ifx\csname @count@#5\endcsname\relax
13997 0%
13998 \else
13999 \csname @count@#5\endcsname
14000 \fi
14001 }%
14002 \immediate\special{%
14003 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14004 s=\ifx#2-c\else o\fi,t=#4%
14005 }%
14006 }%

```

## \ReadBookmarks

```

14007 \def\ReadBookmarks{%
14008 \begingroup
14009 \def\0{\hv@pdf@char 0}%
14010 \def\1{\hv@pdf@char 1}%
14011 \def\2{\hv@pdf@char 2}%
14012 \def\3{\hv@pdf@char 3}%
14013 \def\({}%
14014 \def\)}%
14015 \def\do##1{%
14016 \ifnum\catcode'##1=\active
14017 \@makeother##1%
14018 \else
14019 \ifnum\catcode'##1=6 %
14020 \@makeother##1%
14021 \fi
14022 \fi
14023 }%
14024 \dospecials
14025 \Hy@safe@activetrue
14026 \InputIfFileExists{\jobname.out}{\}{}%
14027 \endgroup
14028 \ifx\WriteBookmarks\relax
14029 \else
14030 \if@files

```

```

14031 \newwrite\@outlinefile
14032 \Hy@OutlineRerunCheck
14033 \immediate\openout\@outlinefile=\jobname.out\relax
14034 \ifHy@typexml
14035 \immediate\write\@outlinefile{<relaxxml>\relax}%
14036 \fi
14037 \fi
14038 \fi
14039 }

14040 </vtex>
14041 <!*vtex>
14042 \def\ReadBookmarks{%
14043 \pdf@ifdraftmode{ }{%
14044 \begingroup
14045 \def\do##1{%
14046 \ifnum\catcode'##1=\active
14047 \@makeother##1%
14048 \else
14049 \ifnum\catcode'##1=6 %
14050 \@makeother##1%
14051 \fi
14052 \fi
14053 }%
14054 \dospecials
14055 \Hy@safe@activetrue
14056 \escapechar='\'%
14057 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14058 \calc@bm@number{##5}%
14059 }%
14060 \InputIfFileExists{\jobname.out}{ }{%
14061 \ifx\WriteBookmarks\relax
14062 \global\let\WriteBookmarks\relax
14063 \fi
14064 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14065 \def\Hy@temp{##4}%
14066 <*pdftex>
14067 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14068 \Hy@OutlineName{ }\Hy@pstringName{%
14069 ##2\check@bm@number{##3}}%
14070 }{%
14071 \expandafter\strip@prefix\meaning\Hy@temp
14072 }%
14073 </pdftex>
14074 <*pdfmark>
14075 \pdfmark{%
14076 pdfmark=/OUT,%
14077 Count={##2\check@bm@number{##3}},%
14078 Dest={##3},%
14079 Title=\expandafter\strip@prefix\meaning\Hy@temp
14080 }%
14081 </pdfmark>
14082 <*dvipdfm|xetex>
14083 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14084 \@pdfm@mark{%
14085 outline \ifHy@DvipdfmxOutlineOpen
14086 [%
14087 \ifnum##21>\z@

```

```

14088         \else
14089         -%
14090         \fi
14091     ] %
14092     \fi
14093     ###1<<%
14094     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14095     /A<<%
14096     /S/GoTo%
14097     /D(\Hy@pstringName)%
14098     >>%
14099     >>%
14100     }%
14101 </dvipdfm | xetex>
14102 }%
14103 \begingroup
14104 \def\WriteBookmarks{0}%
14105 \InputIfFileExists{\jobname.out}{\relax}{\relax}%
14106 \endgroup
14107 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{\relax}{\relax}}%
14108 \endgroup
14109 }%
14110 \ifx\WriteBookmarks\relax
14111 \else
14112 \if@files
14113 \newwrite\@outlinefile
14114 \Hy@OutlineRerunCheck
14115 \immediate\openout\@outlinefile=\jobname.out\relax
14116 \ifHy@typexml
14117 \immediate\write\@outlinefile{<relaxxml>\relax}%
14118 \fi
14119 \fi
14120 \fi
14121 }
14122 <*pdfTeX>
14123 \def\Hy@OutlineName#1#2#3#4{%
14124 \pdfoutline goto name{#2}count#3{#4}%
14125 }
14126 </pdfTeX>
14127 \def\check@bm@number#1{%
14128 \expandafter\ifx\csname B_#1\endcsname\relax
14129 0%
14130 \else
14131 \csname B_#1\endcsname
14132 \fi
14133 }
14134 \def\calc@bm@number#1{%
14135 \@tempcnta=\check@bm@number{#1}\relax
14136 \advance\@tempcnta by 1 %
14137 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14138 }
14139 </!vTeX>
14140 \ifHy@implicit
14141 \else
14142 \expandafter\endinput
14143 \fi
14144 </outlines>

```

```

14145 <*outlines | hypertex>
14146 \newlength\Hy@SectionHShift
14147 \def\Hy@SectionAnchorHref#1{%
14148   \ifx\protect\@typeset@protect
14149     \Hy@@SectionAnchor{#1}%
14150   \fi
14151 }
14152 \DeclareRobustCommand*\Hy@@SectionAnchor}[1]{%
14153   \leavevmode
14154   \hbox to 0pt{%
14155     \kern-\Hy@SectionHShift
14156     \Hy@raisedlink{%
14157       \hyper@anchorstart{#1}\hyper@anchorend
14158     }%
14159     \hss
14160   }%
14161 }
14162 \let\H@old@ssect\@ssect
14163 \def\@ssect#1#2#3#4#5{%
14164   \Hy@MakeCurrentHrefAuto{section*}%
14165   \setlength\Hy@SectionHShift{#1}%
14166   \begingroup
14167     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14168     \toks\tw@\expandafter{%
14169       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14170       #5%
14171     }%
14172   \edef\x{\endgroup
14173     \the\toks@{\the\toks\tw@}%
14174   }\x
14175 }
14176 \let\H@old@schapter\@schapter
14177 \def\@schapter#1{%
14178   \begingroup
14179     \let\@mkboth\@gobbletwo
14180     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14181     \Hy@raisedlink{%
14182       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14183     }%
14184   \endgroup
14185   \H@old@schapter{#1}%
14186 }

```

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:

```

14187 \ltx@ifundefined{@chapter}{-}{%
14188   \let\Hy@org@chapter\@chapter
14189   \def\@chapter{%
14190     \def\Hy@next{%
14191       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14192       \Hy@raisedlink{%
14193         \hyper@anchorstart{\@currentHref}\hyper@anchorend
14194       }%
14195     }%
14196     \ifnum\c@secnumdepth>\m@ne
14197       \ltx@ifundefined{if@mainmatter}%

```

```

14198 \iftrue{\csname if@mainmatter\endcsname}%
14199 \let\Hy@next\relax
14200 \fi
14201 \fi
14202 \Hy@next
14203 \Hy@org@chapter
14204 }%
14205 }

14206 \let\H@old@part\@part
14207 \begingroup\expandafter\expandafter\expandafter\endgroup
14208 \expandafter\ifx\csname chapter\endcsname\relax
14209 \let\Hy@secnum@part\z@
14210 \else
14211 \let\Hy@secnum@part\m@ne
14212 \fi
14213 \def\@part{%
14214 \ifnum\Hy@secnum@part>\c@secnumdepth
14215 \phantomsection
14216 \fi
14217 \H@old@part
14218 }

14219 \let\H@old@spart\@spart
14220 \def\@spart#1{%
14221 \Hy@MakeCurrentHrefAuto{part*}%
14222 \Hy@raisedlink{%
14223 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14224 }%
14225 \H@old@spart{#1}%
14226 }

14227 \let\H@old@sect\@sect
14228 \def\@sect#1#2#3#4#5#6[#7]#8{%
14229 \ifnum #2>\c@secnumdepth
14230 \expandafter\@firstoftwo
14231 \else
14232 \expandafter\@secondoftwo
14233 \fi
14234 {%
14235 \Hy@MakeCurrentHrefAuto{section*}%
14236 \setlength{\Hy@SectionHShift}{#3}%
14237 \begingroup
14238 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]}%
14239 \toks\tw@\expandafter{%
14240 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14241 #8%
14242 }%
14243 \edef\x{\endgroup
14244 \the\toks@{\the\toks\tw@}}%
14245 }\x
14246 }{%
14247 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]{#8}%
14248 }%
14249 }

14250 </outlines | hypertex>
14251 <*outlines>

14252 \expandafter\def\csname Parent-4\endcsname{}
14253 \expandafter\def\csname Parent-3\endcsname{}

```

```

14254 \expandafter\def\csname Parent-2\endcsname{}
14255 \expandafter\def\csname Parent-1\endcsname{}
14256 \expandafter\def\csname Parent0\endcsname{}
14257 \expandafter\def\csname Parent1\endcsname{}
14258 \expandafter\def\csname Parent2\endcsname{}
14259 \expandafter\def\csname Parent3\endcsname{}
14260 \expandafter\def\csname Parent4\endcsname{}
14261 </outlines>

```

## 49 Compatibility with koma-script classes

```
14262 <*outlines | hypertex>
```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

14263 \def\Hy@tempa{%
14264   \def\@addchap{##1}##2{%
14265     \typeout{##2}%
14266     \if@twoside
14267       \@mkboth{##1}{}%
14268     \else
14269       \@mkboth{}{##1}%
14270     \fi
14271     \addtocontents{lof}{\protect\addvspace{10\p@}}%
14272     \addtocontents{lot}{\protect\addvspace{10\p@}}%
14273     \Hy@MakeCurrentHrefAuto{\Hy@chapapp}%
14274     \Hy@raisedlink{%
14275       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14276     }%
14277     \if@twocolumn
14278       \@topnewpage[\@makeschapterhead{##2}]%
14279     \else
14280       \@makeschapterhead{##2}%
14281       \@afterheading
14282     \fi
14283     \addcontentsline{toc}{chapter}{##1}%
14284   }%
14285 }
14286 \ifclassloaded{scrbook}{%
14287   \ifclasslater{scrbook}{2001/01/01}{%
14288     \let\Hy@tempa\@empty
14289   }{%
14290   }%
14291   \ifclassloaded{scrreprt}{%
14292     \ifclasslater{scrreprt}{2001/01/01}{%
14293       \let\Hy@tempa\@empty
14294     }{%
14295     }%
14296     \let\Hy@tempa\@empty
14297   }%
14298 }%
14299 \Hy@tempa
14300 </outlines | hypertex>

```

## 50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 50.1 PD1 encoding

```
14301 (*pd1enc)
14302 \DeclareFontEncoding{PD1}{-}{-}

Accents
14303 \DeclareTextAccent{'}{PD1}{\textasciigrave}
14304 \DeclareTextAccent{'}{PD1}{\textacute}
14305 \DeclareTextAccent{`}{PD1}{\textasciicircum}
14306 \DeclareTextAccent{~}{PD1}{\texttilde}
14307 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
14308 \DeclareTextAccent{\r}{PD1}{\textring}
14309 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14310 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14311 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14312 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
14313 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14314 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14315 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
14316 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textacute}
14317 \DeclareTextCompositeCommand{`}{PD1}{\@empty}{\textasciicircum}
14318 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
14319 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
14320 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
14321 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14322 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14323 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14324 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
14325 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14326 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14327 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textasciigrave}
14328 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textacute}
14329 \DeclareTextCompositeCommand{`}{PD1}{\ }{\textasciicircum}
14330 \DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}
14331 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}
14332 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
14333 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14334 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14335 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14336 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
14337 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14338 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14339 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14340 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14341 \DeclareTextCommand{\newtie}{PD1}[1]{%
14342 \TextSymbolUnavailable{\newtie{#1}}#1%
14343 }
```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```
14344 % U+0009 (CHARACTER TABULATION)
14345 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14346 % U+000A (LINE FEED)
14347 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14348 % U+000D (CARRIAGE RETURN)
```

14349 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names

14350 % U+02D8 BREVE; breve

14351 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8

14352 % U+02C7 CARON; caron

14353 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7

14354 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex

14355 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6

14356 % U+02D9 DOT ABOVE; dotaccent

14357 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9

14358 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut

14359 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD

14360 % U+02DB OGONEK; ogonek

14361 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB

14362 % U+02DA RING ABOVE; ring

14363 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA

14364 % U+02DC SMALL TILDE; ilde, \*tilde

14365 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

14366 % U+0022 QUOTATION MARK; quotedbl

14367 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022

14368 % U+0023 NUMBER SIGN; numbersign

14369 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023

14370 % U+0024 DOLLAR SIGN; dollar

14371 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024

14372 % U+0025 PERCENT SIGN; percent

14373 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025

14374 % U+0026 AMPERSAND; ampersand

14375 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

14376 % U+0028 LEFT PARENTHESIS; parenleft

14377 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% } \050 U+0028

14378 % U+0029 RIGHT PARENTHESIS; parenright

14379 \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

14380 % U+002E FULL STOP; period

14381 \DeclareTextCommand{\textdotbelow}{PD1}{\string\.) } \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

14382 % U+003C LESS-THAN SIGN; less

14383 \DeclareTextCommand{\textless}{PD1}{\string\<} \074 U+003C

\075: U+003D EQUALS SIGN; equal

14384 % U+003E GREATER-THAN SIGN; greater

14385 \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  
 14386 % U+005C REVERSE SOLIDUS; backslash  
 14387 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 14388 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 14389 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 14390 % U+005F LOW LINE; underscore  
 14391 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 14392 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 14393 % U+0060 GRAVE ACCENT; grave  
 14394 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 14395 % U+0069 LATIN SMALL LETTER I; i  
 14396 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 14397 % U+007B LEFT CURLY BRACKET; braceleft  
 14398 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 14399 % U+007C VERTICAL LINE; \*bar, verticalbar  
 14400 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 14401 % U+007D RIGHT CURLY BRACKET; braceright  
 14402 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 14403 % U+007E TILDE; asciitilde  
 14404 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 14405 % U+2022 BULLET; bullet  
 14406 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 14407 % U+2020 DAGGER; dagger  
 14408 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 14409 % U+2021 DOUBLE DAGGER; daggerdbl  
 14410 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 14411 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 14412 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 14413 % U+2014 EM DASH; emdash  
 14414 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 14415 % U+2013 EN DASH; endash  
 14416 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 14417 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 14418 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 14419 % U+2044 FRACTION SLASH; fraction  
 14420 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 14421 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 14422 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039  
 14423 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 lingright  
 14424 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A

14425 % U+2212 MINUS SIGN; minus  
 14426 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
 14427 % U+2030 PER MILLE SIGN; perthousand  
 14428 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
 14429 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 14430 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
 14431 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 14432 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
 14433 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 14434 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
 14435 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 14436 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
 14437 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 14438 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
 14439 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 14440 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
 14441 % U+2122 TRADE MARK SIGN; trademark  
 14442 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
 14443 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 14444 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
 14445 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 14446 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
 14447 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 14448 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
 14449 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 14450 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
 14451 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 14452 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
 14453 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 14454 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178  
 14455 \DeclareTextCommand{\IJ}{PD1}{\230}  
 14456 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 14457 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
 14458 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 14459 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
 14460 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 14461 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
 14462 % U+0153 LATIN SMALL LIGATURE OE; oe  
 14463 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
 14464 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 14465 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
 14466 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 14467 \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.

14468 % U+20AC EURO SIGN; \*Euro, euro  
 14469 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
 14470 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 14471 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
 14472 % U+00A2 CENT SIGN; cent  
 14473 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
 14474 % U+00A3 POUND SIGN; sterling  
 14475 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
 14476 % U+00A4 CURRENCY SIGN; currency  
 14477 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
 14478 % U+00A5 YEN SIGN; yen  
 14479 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5

14480 % U+00A6 BROKEN BAR; brokenbar  
 14481 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
 14482 % U+00A7 SECTION SIGN; section  
 14483 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
 14484 % U+00A8 DIAERESIS; dieresis  
 14485 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
 14486 % U+00A9 COPYRIGHT SIGN; copyright  
 14487 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
 14488 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 14489 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 14490 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 14491 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 14492 % U+00AC NOT SIGN; logicalnot  
 14493 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 14494 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
 No glyph \255 in PDFDocEncoding.  
 14495 % U+00AE REGISTERED SIGN; registered  
 14496 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 14497 % U+00AF MACRON; \*macron, overscore  
 14498 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 14499 % U+00B0 DEGREE SIGN; degree  
 14500 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 14501 % U+00B1 PLUS-MINUS SIGN; plusminus  
 14502 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 14503 % U+00B2 SUPERSCRIFT TWO; twosuperior  
 14504 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2  
 14505 % U+00B3 SUPERSCRIFT THREE; threesuperior  
 14506 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3  
 14507 % U+00B4 ACUTE ACCENT; acute  
 14508 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
 14509 % U+00B5 MICRO SIGN; mu, mul  
 14510 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
 14511 % U+00B6 PILCROW SIGN; paragraph  
 14512 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
 14513 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 14514 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
 14515 % U+00B8 CEDILLA; cedilla  
 14516 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
 14517 % U+00B9 SUPERSCRIFT ONE; onesuperior  
 14518 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
 14519 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 14520 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
 14521 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
 14522 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
 14523 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 14524 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
 14525 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 14526 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
 14527 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 14528 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
 14529 % U+00BF INVERTED QUESTION MARK; questiondown  
 14530 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
 14531 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 14532 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
 14533 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute

14534 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
14535 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
14536 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
14537 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
14538 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
14539 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
14540 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
14541 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
14542 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
14543 % U+00C6 LATIN CAPITAL LETTER AE; AE  
14544 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
14545 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
14546 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
14547 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
14548 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
14549 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
14550 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
14551 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
14552 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
14553 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
14554 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
14555 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
14556 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
14557 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
14558 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
14559 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
14560 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
14561 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
14562 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
14563 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
14564 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
14565 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
14566 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
14567 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
14568 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
14569 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
14570 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
14571 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
14572 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
14573 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
14574 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
14575 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
14576 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
14577 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
14578 % U+00D7 MULTIPLICATION SIGN; multiply  
14579 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
14580 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
14581 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
14582 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
14583 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
14584 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
14585 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
14586 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
14587 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
14588 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
14589 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
14590 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute

14591 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
14592 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
14593 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
14594 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
14595 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
14596 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
14597 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
14598 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; acute  
14599 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
14600 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
14601 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
14602 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
14603 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
14604 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
14605 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
14606 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
14607 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
14608 % U+00E6 LATIN SMALL LETTER AE; ae  
14609 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
14610 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
14611 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
14612 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
14613 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
14614 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
14615 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
14616 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
14617 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
14618 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
14619 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
14620 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
14621 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
14622 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
14623 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
14624 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
14625 \DeclareTextCompositeCommand{\^}{PD1}{i}{\355}% U+00ED  
14626 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
14627 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
14628 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
14629 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
14630 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
14631 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
14632 % U+00F0 LATIN SMALL LETTER ETH; eth  
14633 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
14634 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
14635 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
14636 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
14637 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
14638 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
14639 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
14640 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
14641 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
14642 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
14643 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
14644 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
14645 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
14646 % U+00F7 DIVISION SIGN; divide  
14647 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7

14648 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 14649 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
 14650 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 14651 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371}% U+00F9  
 14652 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 14653 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA  
 14654 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 14655 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB  
 14656 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 14657 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC  
 14658 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 14659 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD  
 14660 % U+00FE LATIN SMALL LETTER THORN; thorn  
 14661 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
 14662 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 14663 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF  
 14664 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

14665 \DeclareTextCommand{\SS}{PD1}{SS}  
 14666 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

14667 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}  
 14668 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}  
 14669 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}  
 14670 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}  
 14671 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}  
 14672 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}  
 14673 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}  
 14674 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)

14675 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}  
 14676 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}  
 14677 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}  
 14678 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}  
 14679 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}  
 14680 \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).

14681 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek  
 14682 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute  
 14683 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek  
 14684 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute  
 14685 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute  
 14686 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute  
 14687 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot  
 14688 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek  
 14689 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute  
 14690 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek  
 14691 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute  
 14692 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute  
 14693 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute  
 14694 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

14695 </pdlenc>

## 50.2 PU encoding

```
14696 \*puenc)
14697 \DeclareFontEncoding{PU}{-}{-}
```

### 50.2.1 NFSS2 accents

```
14698 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
14699 \DeclareTextCommand{'}{PU}[1]{#1\83\000}% U+0300
14700 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
14701 \DeclareTextCommand{'}{PU}[1]{#1\83\001}% U+0301
14702 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
14703 \DeclareTextCommand{'}{PU}[1]{#1\83\002}% U+0302
14704 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
14705 \DeclareTextCommand{'}{PU}[1]{#1\83\003}% U+0303
14706 % U+0304 COMBINING MACRON; macroncmb
14707 \DeclareTextCommand{'}{PU}[1]{#1\83\004}% U+0304
14708 % U+0306 COMBINING BREVE; brevecmb
14709 \DeclareTextCommand{'}{PU}[1]{#1\83\006}% U+0306
14710 \DeclareTextCommand{'}{PU}[1]{#1\83\006}% U+0306
14711 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
14712 \DeclareTextCommand{'}{PU}[1]{#1\83\007}% U+0307
14713 % U+0308 COMBINING DIAERESIS; dieresiscmb
14714 \DeclareTextCommand{'}{PU}[1]{#1\83\010}% U+0308
14715 % U+030A COMBINING RING ABOVE; ringcmb
14716 \DeclareTextCommand{'}{PU}[1]{#1\83\012}% U+030A
14717 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
14718 \DeclareTextCommand{'}{PU}[1]{#1\83\013}% U+030B
14719 % U+030C COMBINING CARON; caroncmb
14720 \DeclareTextCommand{'}{PU}[1]{#1\83\014}% U+030C
14721 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
14722 \DeclareTextCommand{'}{PU}[1]{#1\83\017}% U+030F
14723 \DeclareTextCommand{'}{PU}[1]{#1\83\017}% U+030F
14724 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
14725 \DeclareTextCommand{'}{PU}[1]{#1\83\021}% U+0311
14726 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
14727 \DeclareTextCommand{'}{PU}[1]{#1\83\043}% U+0323
14728 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
14729 \DeclareTextCommand{'}{PU}[1]{#1\83\061}% U+0331
14730 % U+0327 COMBINING CEDILLA; cedillacmb
14731 \DeclareTextCommand{'}{PU}[1]{#1\83\047}% U+0327
14732 % U+0328 COMBINING OGONEK; ogonekcmb
14733 \DeclareTextCommand{'}{PU}[1]{#1\83\050}% U+0328
14734 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
14735 \DeclareTextCommand{'}{PU}[1]{#1\83\141}% U+0361
14736 % U+20DD COMBINING ENCLOSING CIRCLE
14737 \DeclareTextCommand{'}{PU}[1]{#1\9040\335}% U+20DD
```

`\@empty` is an artefact of the NFSS2 machinery, it gets inserted for empty arguments and spaces.

```
14738 \DeclareTextCompositeCommand{'}{PU}{\@empty}{\textasciigrave}
14739 \DeclareTextCompositeCommand{'}{PU}{\@empty}{\textacute}
14740 \DeclareTextCompositeCommand{'}{PU}{\@empty}{\textasciicircum}
14741 \DeclareTextCompositeCommand{'}{PU}{\@empty}{\texttilde}
14742 \DeclareTextCompositeCommand{'}{PU}{\@empty}{\textasciidieresis}
14743 \DeclareTextCompositeCommand{'}{PU}{\@empty}{\textring}
14744 \DeclareTextCompositeCommand{'}{PU}{\@empty}{\textasciicaron}
14745 \DeclareTextCompositeCommand{'}{PU}{\@empty}{\textdotaccent}
14746 \DeclareTextCompositeCommand{'}{PU}{\@empty}{\textcedilla}
```

```

14747 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
14748 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
14749 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
14750 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
14751 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
14752 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
14753 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
14754 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
14755 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
14756 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

14757 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
14758 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
14759 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
14760 \DeclareTextCompositeCommand{\-}{PU}{\ }{\texttilde}
14761 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
14762 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
14763 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
14764 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
14765 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
14766 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
14767 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
14768 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
14769 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
14770 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
14771 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
14772 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
14773 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
14774 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
14775 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

14776 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
14777 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
14778 \DeclareTextCommand{\capitalgrave}{PU}[1]{\{'{#1}}
14779 \DeclareTextCommand{\capitalacute}{PU}[1]{\'\{#1}}
14780 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
14781 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
14782 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\{"{#1}}
14783 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
14784 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
14785 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
14786 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
14787 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
14788 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
14789 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
14790 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

## 50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

14791 % U+0009 (CHARACTER TABULATION)
14792 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
14793 % U+000A (LINE FEED)
14794 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
14795 % U+000D (CARRIAGE RETURN)
14796 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

```

14797 % U+0022 QUOTATION MARK; quotedbl  
 14798 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022  
 14799 % U+0023 NUMBER SIGN; numbersign  
 14800 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023  
 14801 % U+0024 DOLLAR SIGN; dollar  
 14802 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024  
 14803 % U+0025 PERCENT SIGN; percent  
 14804 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025  
 14805 % U+0026 AMPERSAND; ampersand  
 14806 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
 14807 % U+0027 APOSTROPHE; quotesingle  
 14808 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
 14809 % U+0028 LEFT PARENTHESIS; parenleft  
 14810 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
 14811 % U+0029 RIGHT PARENTHESIS; parenright  
 14812 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
 14813 % U+002A ASTERISK; asterisk  
 14814 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A (?)  
 \80\053: U+002B PLUS SIGN; plus  
 \80\054: U+002C COMMA; comma  
 \80\055: U+002D HYPHEN-MINUS; hyphen  
 \80\056: U+002E FULL STOP; period  
 \80\057: U+002F SOLIDUS; slash  
 \80\060: U+0030 DIGIT ZERO; zero  
 ...  
 \80\071: U+0039 DIGIT NINE; nine  
 \80\072: U+003A COLON; colon  
 \80\073: U+003B SEMICOLON; semicolon  
 14815 % U+003C LESS-THAN SIGN; less  
 14816 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 14817 % U+003E GREATER-THAN SIGN; greater  
 14818 \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  
 14819 % U+005C REVERSE SOLIDUS; backslash  
 14820 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 14821 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 14822 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 14823 % U+005F LOW LINE; underscore  
 14824 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 14825 % U+0060 GRAVE ACCENT; grave  
 14826 \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  
 14827 % U+0069 LATIN SMALL LETTER I; i  
 14828 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069

14829 \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  
 14830 % U+007B LEFT CURLY BRACKET; braceleft  
 14831 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 14832 % U+007C VERTICAL LINE; \*bar, verticalbar  
 14833 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 14834 % U+007D RIGHT CURLY BRACKET; braceright  
 14835 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 14836 % U+007E TILDE; asciitilde  
 14837 \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  
 14838 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 14839 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 14840 % U+00A2 CENT SIGN; cent  
 14841 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 14842 % U+00A3 POUND SIGN; sterling  
 14843 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 14844 % U+00A4 CURRENCY SIGN; currency  
 14845 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 14846 % U+00A5 YEN SIGN; yen  
 14847 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 14848 % U+00A6 BROKEN BAR; brokenbar  
 14849 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 14850 % U+00A7 SECTION SIGN; section  
 14851 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 14852 % U+00A8 DIAERESIS; diaeresis  
 14853 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 14854 % U+00A9 COPYRIGHT SIGN; copyright  
 14855 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9  
 14856 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 14857 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 14858 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motleft  
 14859 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 14860 % U+00AC NOT SIGN; logicalnot  
 14861 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 14862 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
 14863 % U+00AE REGISTERED SIGN; registered  
 14864 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 14865 % U+00AF MACRON; \*macron, overscore  
 14866 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 14867 % U+00B0 DEGREE SIGN; degree  
 14868 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 14869 % U+00B1 PLUS-MINUS SIGN; plusminus  
 14870 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 14871 % U+00B2 SUPERScript TWO; twosuperior  
 14872 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
 14873 % U+00B3 SUPERScript THREE; threesuperior  
 14874 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3  
 14875 % U+00B4 ACUTE ACCENT; acute

14876 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
14877 \DeclareTextCommand{\textasciiaacute}{PU}{\80\264}% U+00B4  
14878 % U+00B5 MICRO SIGN; mu, mul  
14879 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
14880 % U+00B6 PILCROW SIGN; paragraph  
14881 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
14882 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
14883 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
14884 % U+00B8 CEDILLA; cedilla  
14885 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
14886 % U+00B9 SUPERSCRIPT ONE; onesuperior  
14887 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
14888 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
14889 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
14890 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
14891 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
14892 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
14893 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
14894 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
14895 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
14896 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
14897 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
14898 % U+00BF INVERTED QUESTION MARK; questiondown  
14899 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
14900 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
14901 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
14902 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
14903 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
14904 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
14905 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
14906 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
14907 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
14908 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
14909 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
14910 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
14911 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
14912 % U+00C6 LATIN CAPITAL LETTER AE; AE  
14913 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
14914 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
14915 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
14916 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
14917 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
14918 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
14919 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
14920 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
14921 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
14922 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
14923 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
14924 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
14925 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
14926 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
14927 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
14928 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
14929 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
14930 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
14931 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF

14932 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
14933 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
14934 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
14935 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
14936 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
14937 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
14938 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
14939 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
14940 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
14941 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
14942 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
14943 \DeclareTextCompositeCommand{\-}{PU}{O}{\80\325}% U+00D5  
14944 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
14945 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
14946 % U+00D7 MULTIPLICATION SIGN; multiply  
14947 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
14948 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
14949 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
14950 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
14951 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
14952 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
14953 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
14954 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
14955 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
14956 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
14957 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
14958 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
14959 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
14960 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
14961 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
14962 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
14963 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
14964 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
14965 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
14966 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
14967 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
14968 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
14969 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
14970 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
14971 \DeclareTextCompositeCommand{\-}{PU}{a}{\80\343}% U+00E3  
14972 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
14973 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
14974 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
14975 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
14976 % U+00E6 LATIN SMALL LETTER AE; ae  
14977 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
14978 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
14979 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
14980 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
14981 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
14982 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
14983 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
14984 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
14985 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
14986 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
14987 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
14988 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave

14989 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 14990 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 14991 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
 14992 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 14993 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 14994 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
 14995 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\356}% U+00EE  
 14996 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\356}% U+00EE  
 14997 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
 14998 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\357}% U+00EF  
 14999 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\357}% U+00EF  
 15000 % U+00F0 LATIN SMALL LETTER ETH; eth  
 15001 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
 15002 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 15003 \DeclareTextCompositeCommand{\'}{PU}{n}{\80\361}% U+00F1  
 15004 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 15005 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
 15006 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 15007 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 15008 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 15009 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\364}% U+00F4  
 15010 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 15011 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\365}% U+00F5  
 15012 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 15013 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\366}% U+00F6  
 15014 % U+00F7 DIVISION SIGN; divide  
 15015 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 15016 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 15017 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 15018 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 15019 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 15020 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 15021 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 15022 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 15023 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\373}% U+00FB  
 15024 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 15025 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\374}% U+00FC  
 15026 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 15027 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 15028 % U+00FE LATIN SMALL LETTER THORN; thorn  
 15029 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 15030 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 15031 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\377}% U+00FF

#### 50.2.4 Latin Extended-A: U+0080 to U+017F

15032 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 15033 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 15034 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 15035 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 15036 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 15037 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 15038 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 15039 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 15040 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 15041 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 15042 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek

15043 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
15044 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
15045 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
15046 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
15047 \DeclareTextCompositeCommand{\`}{PU}{c}{\81\007}% U+0107  
15048 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
15049 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
15050 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
15051 \DeclareTextCompositeCommand{\~}{PU}{c}{\81\011}% U+0109  
15052 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
15053 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
15054 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
15055 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
15056 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
15057 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
15058 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
15059 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
15060 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
15061 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
15062 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
15063 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
15064 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
15065 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
15066 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
15067 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
15068 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
15069 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
15070 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
15071 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
15072 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
15073 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
15074 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
15075 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
15076 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
15077 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
15078 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
15079 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
15080 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
15081 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
15082 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
15083 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
15084 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
15085 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
15086 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
15087 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
15088 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
15089 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
15090 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
15091 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
15092 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
15093 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
15094 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
15095 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
15096 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
15097 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
15098 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
15099 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121

15100 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
15101 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
15102 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
15103 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
15104 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
15105 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
15106 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
15107 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
15108 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
15109 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
15110 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
15111 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127  
15112 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
15113 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
15114 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
15115 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
15116 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
15117 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
15118 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
15119 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
15120 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
15121 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
15122 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
15123 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
15124 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
15125 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
15126 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
15127 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
15128 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
15129 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
15130 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
15131 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
15132 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
15133 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
15134 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
15135 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
15136 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
15137 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
15138 % U+0133 LATIN SMALL LIGATURE IJ; ij  
15139 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
15140 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
15141 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
15142 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
15143 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
15144 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
15145 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
15146 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
15147 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
15148 \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`.

15149 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
15150 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
15151 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute

15152 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
15153 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
15154 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
15155 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-  
cent  
15156 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
15157 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
15158 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
15159 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
15160 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
15161 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
15162 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E  
There seems to be no variants of letters 'L' and 'l' with a dot above (reasonable). There-  
fore the \. accent is reused instead of making a separate accent macro \textmiddledot.  
15163 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
15164 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
15165 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
15166 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
15167 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
15168 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
15169 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
15170 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
15171 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
15172 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
15173 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
15174 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
15175 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-  
cent  
15176 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
15177 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
15178 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
15179 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
15180 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
15181 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
15182 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
15183 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-  
trophe, quoterightn  
15184 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
15185 % U+014A LATIN CAPITAL LETTER ENG; Eng  
15186 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
15187 % U+014B LATIN SMALL LETTER ENG; eng  
15188 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
15189 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
15190 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
15191 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
15192 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
15193 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
15194 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
15195 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
15196 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
15197 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblac-  
cute, Ohungarumlaut  
15198 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
15199 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohun-  
garumlaut  
15200 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
15201 % U+0152 LATIN CAPITAL LIGATURE OE; OE

15202 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
15203 % U+0153 LATIN SMALL LIGATURE OE; oe  
15204 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
15205 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
15206 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
15207 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
15208 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
15209 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-  
cent  
15210 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
15211 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
15212 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
15213 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
15214 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
15215 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
15216 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
15217 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
15218 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
15219 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
15220 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
15221 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
15222 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
15223 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
15224 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
15225 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
15226 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
15227 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
15228 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
15229 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
15230 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
15231 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
15232 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
15233 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-  
cent  
15234 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
15235 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
15236 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
15237 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
15238 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
15239 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
15240 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
15241 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
15242 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
15243 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
15244 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
15245 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
15246 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
15247 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
15248 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
15249 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
15250 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
15251 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
15252 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
15253 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
15254 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
15255 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
15256 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D

15257 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
 15258 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
 15259 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
 15260 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
 15261 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
 15262 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
 15263 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
 15264 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
 15265 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
 15266 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
 15267 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
 15268 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
 15269 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
 15270 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
 15271 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
 15272 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
 15273 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
 15274 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 15275 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 15276 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 15277 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 15278 \DeclareTextCompositeCommand{"}{PU}{Y}{\81\170}% U+0178  
 15279 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 15280 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
 15281 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 15282 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 15283 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 15284 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 15285 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 15286 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 15287 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 15288 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 15289 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 15290 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 15291 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 15292 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

## 50.2.5 Latin Extended-B: U+0180 to U+024F

15293 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 15294 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 15295 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 15296 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 15297 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 15298 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 15299 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 15300 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 15301 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 15302 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 15303 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 15304 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 15305 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 15306 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 15307 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 15308 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 15309 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3

15310 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
15311 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
15312 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
15313 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
15314 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
15315 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
15316 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
15317 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
15318 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
15319 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
15320 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
15321 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
15322 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
15323 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
15324 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
15325 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
15326 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
15327 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
15328 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
15329 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
15330 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
15331 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
15332 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
15333 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
15334 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
15335 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
15336 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
15337 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
15338 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
15339 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
15340 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
15341 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
15342 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
15343 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslasha-  
acute, Ostrokeacute  
15344 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
15345 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslasha-  
acute, ostrokeacute  
15346 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
15347 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
15348 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
15349 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
15350 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
15351 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
15352 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
15353 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
15354 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
15355 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
15356 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
15357 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
15358 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
15359 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
15360 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
15361 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
15362 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
15363 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
15364 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave

15365 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
 15366 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
 15367 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
 15368 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
 15369 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
 15370 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
 15371 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 15372 % U+021E LATIN CAPITAL LETTER H WITH CARON  
 15373 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 15374 % U+021F LATIN SMALL LETTER H WITH CARON  
 15375 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 15376 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 15377 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 15378 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 15379 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 15380 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 15381 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 15382 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 15383 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 15384 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 15385 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 15386 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 15387 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 15388 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 15389 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 15390 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 15391 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 15392 % U+0237 LATIN SMALL LETTER DOTLESS J  
 15393 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

## 50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

15394 % U+02C7 CARON; caron  
 15395 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 15396 % U+02D8 BREVE; breve  
 15397 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 15398 % U+02D9 DOT ABOVE; dotaccent  
 15399 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 15400 % U+02DA RING ABOVE; ring  
 15401 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 15402 % U+02DB OGONEK; ogonek  
 15403 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 15404 % U+02DC SMALL TILDE; ilde, \*tilde  
 15405 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 15406 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 15407 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 15408 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 15409 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 15410 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 15411 % U+02F7 MODIFIER LETTER LOW TILDE  
 15412 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

## 50.2.7 Combining Diacritical Marks: U+0300 to U+036F

15413 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 15414 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 15415 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 15416 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 15417 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb

15418 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 15419 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 15420 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 15421 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 15422 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

## 50.2.8 Greek and Coptic: U+0370 to U+03FF

15423 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 15424 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 15425 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 15426 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 15427 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos  
 15428 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 15429 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 15430 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 15431 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 15432 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 15433 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 15434 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 15435 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-  
 cronos  
 15436 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 15437 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilononos  
 15438 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 15439 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 15440 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
 15441 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; io-  
 tadiesistonos  
 15442 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesesis}{\83\220}% U+0390  
 15443 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
 15444 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
 15445 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
 15446 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
 15447 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
 15448 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
 15449 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta  
 15450 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
 15451 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
 15452 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
 15453 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
 15454 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
 15455 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
 15456 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
 15457 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
 15458 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
 15459 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
 15460 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
 15461 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
 15462 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
 15463 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
 15464 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
 15465 % U+039C GREEK CAPITAL LETTER MU; Mu  
 15466 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
 15467 % U+039D GREEK CAPITAL LETTER NU; Nu  
 15468 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
 15469 % U+039E GREEK CAPITAL LETTER XI; Xi  
 15470 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E

15471 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
 15472 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
 15473 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
 15474 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
 15475 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
 15476 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
 15477 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
 15478 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
 15479 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
 15480 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
 15481 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
 15482 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
 15483 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
 15484 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
 15485 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
 15486 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
 15487 % U+03A8 GREEK CAPITAL LETTER PSI; Psi  
 15488 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
 15489 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
 15490 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
 15491 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
 15492 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
 15493 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA  
 15494 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-  
 silondieresis  
 15495 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
 15496 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos  
 15497 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC  
 15498 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilonos  
 15499 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD  
 15500 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos  
 15501 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE  
 15502 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos  
 15503 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF  
 15504 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-  
 silondieresis  
 15505 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0  
 15506 % U+03B1 GREEK SMALL LETTER ALPHA; alpha  
 15507 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1  
 15508 % U+03B2 GREEK SMALL LETTER BETA; beta  
 15509 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
 15510 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
 15511 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
 15512 % U+03B4 GREEK SMALL LETTER DELTA; delta  
 15513 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
 15514 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
 15515 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
 15516 % U+03B6 GREEK SMALL LETTER ZETA; zeta  
 15517 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
 15518 % U+03B7 GREEK SMALL LETTER ETA; eta  
 15519 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
 15520 % U+03B8 GREEK SMALL LETTER THETA; theta  
 15521 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
 15522 % U+03B9 GREEK SMALL LETTER IOTA; iota  
 15523 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9  
 15524 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
 15525 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA

15526 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
15527 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
15528 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
15529 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
15530 % U+03BD GREEK SMALL LETTER NU; nu  
15531 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD  
15532 % U+03BE GREEK SMALL LETTER XI; xi  
15533 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
15534 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
15535 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
15536 % U+03C0 GREEK SMALL LETTER PI; pi  
15537 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
15538 % U+03C1 GREEK SMALL LETTER RHO; rho  
15539 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
15540 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
15541 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
15542 % U+03C3 GREEK SMALL LETTER SIGMA; sigma  
15543 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3  
15544 % U+03C4 GREEK SMALL LETTER TAU; tau  
15545 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4  
15546 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon  
15547 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5  
15548 % U+03C6 GREEK SMALL LETTER PHI; phi  
15549 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6  
15550 % U+03C7 GREEK SMALL LETTER CHI; chi  
15551 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7  
15552 % U+03C8 GREEK SMALL LETTER PSI; psi  
15553 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8  
15554 % U+03C9 GREEK SMALL LETTER OMEGA; omega  
15555 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9  
15556 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis  
15557 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA  
15558 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-  
silondieresis  
15559 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB  
15560 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
15561 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC  
15562 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
15563 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD  
15564 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD  
15565 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
15566 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE  
15567 % U+03DA GREEK LETTER STIGMA; Stigmagreek  
15568 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA  
15569 % U+03DB GREEK SMALL LETTER STIGMA  
15570 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB  
15571 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
15572 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC  
15573 % U+03DD GREEK SMALL LETTER DIGAMMA  
15574 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
15575 % U+03DE GREEK LETTER KOPPA; Koppagreek  
15576 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE  
15577 % U+03DF GREEK SMALL LETTER KOPPA  
15578 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF  
15579 % U+03E0 GREEK LETTER SAMPI; Sampigreek  
15580 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0  
15581 % U+03E1 GREEK SMALL LETTER SAMPI

15582 \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.

15583 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE  
15584 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400  
15585 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, \*afii10023  
15586 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401  
15587 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???  
15588 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afii10051  
15589 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
15590 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
15591 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403  
15592 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, \*afii10053  
15593 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
15594 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
15595 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
15596 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, \*afii10055  
15597 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
15598 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
15599 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
15600 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407  
15601 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
15602 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
15603 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
15604 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
15605 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
15606 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
15607 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
15608 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
15609 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
15610 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
15611 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
15612 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
15613 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
15614 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
15615 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
15616 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
15617 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
15618 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
15619 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
15620 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
15621 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
15622 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
15623 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
15624 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
15625 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
15626 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
15627 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
15628 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
15629 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
15630 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
15631 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
15632 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
15633 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417

15634 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
 15635 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
 15636 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
 15637 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
 15638 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
 15639 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
 15640 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
 15641 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
 15642 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
 15643 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
 15644 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
 15645 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
 15646 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
 15647 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
 15648 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
 15649 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
 15650 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
 15651 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
 15652 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
 15653 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
 15654 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
 15655 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
 15656 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
 15657 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
 15658 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
 15659 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
 15660 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
 15661 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
 15662 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
 15663 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
 15664 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
 15665 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
 15666 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
 15667 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
 15668 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
 15669 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
 15670 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
 15671 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, \*afii10044  
 15672 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
 15673 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
 15674 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
 15675 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, \*afii10046  
 15676 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
 15677 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
 15678 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
 15679 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
 15680 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
 15681 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
 15682 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
 15683 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
 15684 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
 15685 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
 15686 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
 15687 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
 15688 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
 15689 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
 15690 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433

15691 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
 15692 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
 15693 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
 15694 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
 15695 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
 15696 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436  
 15697 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
 15698 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
 15699 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
 15700 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
 15701 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
 15702 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
 15703 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
 15704 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
 15705 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
 15706 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
 15707 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B  
 15708 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
 15709 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
 15710 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
 15711 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
 15712 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
 15713 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
 15714 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
 15715 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
 15716 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
 15717 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
 15718 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
 15719 \DeclareTextCommand{\cyr{s}}{PU}{\84\101}% U+0441  
 15720 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
 15721 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
 15722 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
 15723 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
 15724 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
 15725 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
 15726 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
 15727 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
 15728 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
 15729 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
 15730 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
 15731 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
 15732 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
 15733 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
 15734 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
 15735 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
 15736 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
 15737 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
 15738 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
 15739 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B  
 15740 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
 15741 \DeclareTextCommand{\cyr{sftsn}}{PU}{\84\114}% U+044C  
 15742 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
 15743 \DeclareTextCommand{\cyrrerev}{PU}{\84\115}% U+044D  
 15744 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
 15745 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E  
 15746 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
 15747 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F

15748 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
 15749 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
 15750 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrrillic  
 15751 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451  
 15752 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
 15753 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
 15754 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
 15755 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
 15756 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
 15757 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrrillic  
 15758 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
 15759 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
 15760 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
 15761 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyrillic  
 15762 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
 15763 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrrillic  
 15764 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
 15765 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
 15766 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
 15767 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
 15768 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
 15769 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
 15770 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
 15771 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
 15772 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrrillic  
 15773 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
 15774 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
 15775 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
 15776 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
 15777 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
 15778 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrrillic  
 15779 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
 15780 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
 15781 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrrillic  
 15782 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
 15783 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrrillic  
 15784 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
 15785 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrrillic  
 15786 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
 15787 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrrillic, \*afii10146  
 15788 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
 15789 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrrillic  
 15790 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
 15791 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrrillic  
 15792 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
 15793 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrrillic  
 15794 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
 15795 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrrillic  
 15796 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
 15797 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrrillic  
 15798 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
 15799 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleiotifiedcyrrillic  
 15800 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
 15801 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleiotifiedcyrrillic

15802 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
15803 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
15804 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
15805 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
15806 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
15807 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
cyrillic  
15808 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
15809 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-  
lic  
15810 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
15811 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
15812 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
15813 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
15814 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
15815 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
15816 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
15817 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
15818 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
15819 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
15820 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
15821 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
15822 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
15823 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
15824 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
15825 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
15826 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
15827 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
CENT; Izhitsadblgravecyrillic  
15828 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
15829 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
CENT; izhitsadblgravecyrillic  
15830 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
15831 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
15832 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
15833 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
15834 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
15835 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-  
lic  
15836 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
15837 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
15838 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
15839 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-  
cyrillic  
15840 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
15841 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-  
cyrillic  
15842 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
15843 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
15844 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
15845 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
15846 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
15847 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
15848 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
15849 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
15850 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
15851 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic

15852 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrillicmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrillicmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrillicmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 15853 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 15854 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 15855 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 15856 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 15857 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 15858 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 15859 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 15860 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 15861 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 15862 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 15863 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 15864 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 15865 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, \*afii10050  
 15866 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 15867 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
 15868 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 15869 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic  
 15870 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
 15871 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 15872 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 15873 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic  
 15874 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 15875 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic  
 15876 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 15877 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic  
 15878 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
 15879 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic  
 15880 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
 15881 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
 15882 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 15883 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
 15884 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
 15885 \DeclareTextCommand{\cyrzds}{PU}{\84\231}% U+0499  
 15886 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 15887 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic

15888 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
15889 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadesender-cyrillic  
15890 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
15891 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-ticalstrokecyrillic  
15892 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
15893 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-ticalstrokecyrillic  
15894 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
15895 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
15896 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
15897 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
15898 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
15899 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
15900 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
15901 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
15902 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
15903 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-dercyrillic  
15904 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
15905 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-cyrillic  
15906 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
15907 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
15908 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
15909 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
15910 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
15911 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-dlehookcyrillic  
15912 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
15913 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddle-hookcyrillic  
15914 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
15915 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
15916 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
15917 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
15918 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
15919 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescen-dercyrillic  
15920 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
15921 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
15922 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-cyrillic  
15923 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
15924 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB  
15925 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescen-dercyrillic  
15926 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
15927 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescender-cyrillic  
15928 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
15929 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
15930 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
15931 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
15932 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF

15933 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Us-  
 traightstrokecyrillic  
 15934 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
 15935 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-  
 traightstrokecyrillic  
 15936 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1  
 15937 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescen-  
 dercyrillic  
 15938 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
 15939 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescen-  
 dercyrillic  
 15940 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
 15941 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
 15942 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
 15943 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
 15944 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
 15945 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescen-  
 dercyrillic  
 15946 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
 15947 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescen-  
 dercyrillic  
 15948 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7  
 15949 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-  
 erticalstrokecyrillic  
 15950 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
 15951 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-  
 erticalstrokecyrillic  
 15952 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
 15953 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
 15954 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
 15955 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
 15956 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
 15957 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-  
 cyrillic  
 15958 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
 15959 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-  
 lic  
 15960 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
 15961 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
 DER; Chedescenderabkhasiancyrillic  
 15962 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
 15963 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
 15964 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
 DER; chedescenderabkhasiancyrillic  
 15965 \DeclareTextCommand{\cyrabhchds}{PU}{\84\277}% U+04BF  
 15966 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
 15967 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
 15968 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
 15969 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
 15970 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
 15971 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
 15972 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
 15973 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
 15974 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
 15975 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
 15976 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
 15977 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL

15978 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
 15979 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
 15980 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
 15981 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
 15982 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
 15983 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
 15984 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
 15985 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-cyrillic  
 15986 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
 15987 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-cyrillic  
 15988 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
 15989 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
 15990 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
 15991 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
 15992 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
 15993 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevcyrillic  
 15994 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
 15995 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevcyrillic  
 15996 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
 15997 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic  
 15998 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2  
 15999 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
 16000 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3  
 16001 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
 16002 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
 16003 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
 16004 \DeclareTextCommand{\cyrcae}{PU}{\84\325}% U+04D5  
 16005 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevcyrillic  
 16006 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
 16007 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevcyrillic  
 16008 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
 16009 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
 16010 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
 16011 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afi10846, schwacyrillic  
 16012 \DeclareTextCommand{\cyrswa}{PU}{\84\331}% U+04D9  
 16013 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-siscyrillic  
 16014 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
 16015 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-siscyrillic  
 16016 \DeclareTextCompositeCommand{\U}{PU}{\cyrswa}{\84\333}% U+04DB  
 16017 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-siscyrillic  
 16018 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC  
 16019 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic  
 16020 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\335}% U+04DD  
 16021 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic  
 16022 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE  
 16023 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic  
 16024 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF

16025 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-cyrillic  
 16026 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
 16027 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
 16028 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
 16029 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
 16030 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2  
 16031 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
 16032 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3  
 16033 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
 16034 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
 16035 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
 16036 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
 16037 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
 16038 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
 16039 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
 16040 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
 16041 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
 16042 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
 16043 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
 16044 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
 16045 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic  
 16046 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
 16047 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic  
 16048 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
 16049 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
 16050 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
 16051 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
 16052 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
 16053 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
 16054 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE  
 16055 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
 16056 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF  
 16057 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
 16058 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
 16059 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
 16060 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 16061 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic  
 16062 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
 16063 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic  
 16064 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
 16065 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic  
 16066 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 16067 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
 16068 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 16069 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 16070 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 16071 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 16072 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7

16073 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-  
siscyrillic  
16074 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
16075 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-  
siscyrillic  
16076 \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  
16077 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
16078 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
16079 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
16080 \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

16081 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
16082 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

## 50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

16083 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
16084 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02  
16085 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
16086 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03  
16087 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
16088 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
16089 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
16090 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
16091 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
16092 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A  
16093 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
16094 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B  
16095 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
16096 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
16097 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
16098 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
16099 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
16100 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
16101 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
16102 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
16103 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
16104 \DeclareTextCompositeCommand{.}{PU}{F}{\9036\036}% U+1E1E  
16105 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
16106 \DeclareTextCompositeCommand{.}{PU}{f}{\9036\037}% U+1E1F  
16107 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
16108 \DeclareTextCompositeCommand{=} {PU}{G}{\9036\040}% U+1E20  
16109 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
16110 \DeclareTextCompositeCommand{=} {PU}{g}{\9036\041}% U+1E21  
16111 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
16112 \DeclareTextCompositeCommand{.}{PU}{H}{\9036\042}% U+1E22  
16113 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
16114 \DeclareTextCompositeCommand{.}{PU}{h}{\9036\043}% U+1E23  
16115 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
16116 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26  
16117 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis

16118 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27  
16119 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
16120 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
16121 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
16122 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
16123 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
16124 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30  
16125 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
16126 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31  
16127 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
16128 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
16129 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
16130 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
16131 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
16132 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
16133 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
16134 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
16135 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
16136 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E  
16137 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
16138 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F  
16139 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
16140 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
16141 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
16142 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
16143 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
16144 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
16145 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
16146 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
16147 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
16148 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
16149 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
16150 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
16151 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
16152 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54  
16153 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
16154 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55  
16155 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
16156 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
16157 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
16158 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
16159 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
16160 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
16161 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
16162 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
16163 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
16164 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
16165 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
16166 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
16167 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
16168 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
16169 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
16170 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
16171 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
16172 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
16173 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
16174 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F

16175 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
16176 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
16177 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
16178 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
16179 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
16180 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
16181 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
16182 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
16183 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
16184 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\202}% U+1E82  
16185 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
16186 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\203}% U+1E83  
16187 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
16188 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
16189 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
16190 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
16191 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
16192 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
16193 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
16194 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
16195 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
16196 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
16197 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
16198 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
16199 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
16200 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
16201 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
16202 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
16203 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
16204 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
16205 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
16206 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
16207 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
16208 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
16209 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
16210 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
16211 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
16212 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
16213 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
16214 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
16215 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
16216 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
16217 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
16218 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
16219 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
16220 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
16221 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
16222 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
16223 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-  
cent  
16224 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
16225 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
16226 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
16227 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
16228 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
16229 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
16230 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2

16231 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 16232 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 16233 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 16234 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 16235 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 16236 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

## 50.2.12 General Punctuation: U+2000 to U+206F

16237 % U+200C ZERO WIDTH NON-JOINER; \*afi61664, zerowidthnonjoiner  
 16238 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 16239 % U+2013 EN DASH; endash  
 16240 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 16241 % U+2014 EM DASH; emdash  
 16242 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 16243 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 16244 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 16245 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 16246 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 16247 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 16248 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 16249 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 16250 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 16251 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 16252 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 16253 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 16254 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 16255 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 16256 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 16257 % U+2020 DAGGER; dagger  
 16258 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 16259 % U+2021 DOUBLE DAGGER; daggerdbl  
 16260 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 16261 % U+2022 BULLET; bullet  
 16262 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 16263 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 16264 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 16265 % U+2030 PER MILLE SIGN; perthousand  
 16266 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 16267 % U+2031 PER TEN THOUSAND SIGN  
 16268 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 16269 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
   inglleft  
 16270 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 16271 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-  
   inglright  
 16272 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 16273 % U+203B REFERENCE MARK; referencemark  
 16274 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 16275 % U+203D INTERROBANG  
 16276 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 16277 % U+2044 FRACTION SLASH; fraction  
 16278 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 16279 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 16280 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 16281 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 16282 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 16283 % U+2052 COMMERCIAL MINUS SIGN

16284 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

### 50.2.13 Superscripts and Subscripts: U+2070 to U+209F

16285 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
16286 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
16287 % U+2074 SUPERSCRIPT FOUR; foursuperior  
16288 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
16289 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
16290 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
16291 % U+2076 SUPERSCRIPT SIX; sixsuperior  
16292 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
16293 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
16294 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
16295 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
16296 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
16297 % U+2079 SUPERSCRIPT NINE; ninesuperior  
16298 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
16299 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
16300 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
16301 % U+207B SUPERSCRIPT MINUS  
16302 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
16303 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
16304 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}  
16305 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
16306 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
16307 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
16308 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
16309 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
16310 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}  
16311 % U+2080 SUBSCRIPT ZERO; zeroinferior  
16312 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
16313 % U+2081 SUBSCRIPT ONE; oneinferior  
16314 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
16315 % U+2082 SUBSCRIPT TWO; twoinferior  
16316 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
16317 % U+2083 SUBSCRIPT THREE; threeinferior  
16318 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083  
16319 % U+2084 SUBSCRIPT FOUR; fourinferior  
16320 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
16321 % U+2085 SUBSCRIPT FIVE; fiveinferior  
16322 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
16323 % U+2086 SUBSCRIPT SIX; sixinferior  
16324 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
16325 % U+2087 SUBSCRIPT SEVEN; seveninferior  
16326 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
16327 % U+2088 SUBSCRIPT EIGHT; eightinferior  
16328 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
16329 % U+2089 SUBSCRIPT NINE; nineinferior  
16330 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
16331 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
16332 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
16333 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
16334 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

### 50.2.14 Currency Symbols: U+20A0 to U+20CF

16335 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
16336 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1

16337 % U+20A4 LIRA SIGN; afii08941, \*lira  
 16338 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 16339 % U+20A6 NAIRA SIGN  
 16340 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 16341 % U+20A7 PESETA SIGN; peseta  
 16342 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 16343 % U+20A9 WON SIGN; won  
 16344 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 16345 % U+20AB DONG SIGN; dong  
 16346 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 16347 % U+20AC EURO SIGN; \*Euro, euro  
 16348 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 16349 % U+20B1 PESO SIGN  
 16350 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 16351 % U+20B2 GUARANI SIGN  
 16352 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

### 50.2.15 Letterlike Symbols: U+2100 to U+214F

16353 % U+2103 DEGREE CELSIUS; centigrade  
 16354 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 16355 % U+2116 NUMERO SIGN; \*afii61352, numero  
 16356 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 16357 % U+2117 SOUND RECORDING COPYRIGHT  
 16358 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 16359 % U+211E PRESCRIPTION TAKE; prescription  
 16360 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 16361 % U+2120 SERVICE MARK  
 16362 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 16363 % U+2122 TRADE MARK SIGN; trademark  
 16364 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 16365 % U+2126 OHM SIGN; Ohm, Omega  
 16366 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 16367 % U+2127 INVERTED OHM SIGN  
 16368 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
 16369 % U+212B ANGSTROM SIGN; angstrom  
 16370 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 16371 % U+212E ESTIMATED SYMBOL; estimated  
 16372 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 16373 % U+2135 ALEF SYMBOL; aleph  
 16374 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

### 50.2.16 Arrows: U+2190 to U+21FF

16375 % U+2190 LEFTWARDS ARROW; arrowleft  
 16376 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
 16377 % U+2191 UPWARDS ARROW; arrowup  
 16378 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
 16379 % U+2192 RIGHTWARDS ARROW; arrowright  
 16380 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192  
 16381 % U+2193 DOWNWARDS ARROW; arrowdown  
 16382 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

### 50.2.17 Mathematical Operators: U+2200 to U+22FF

16383 % U+2212 MINUS SIGN; minus  
 16384 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
 16385 % U+221A SQUARE ROOT; radical  
 16386 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

## 50.2.18 Miscellaneous Technical: U+2300 to U+23FF

16387 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
16388 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
16389 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
16390 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

## 50.2.19 Control Pictures: U+2400 to U+243F

16391 % U+2422 BLANK SYMBOL  
16392 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
16393 % U+2423 OPEN BOX; blank  
16394 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

## 50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

16395 % U+2460 CIRCLED DIGIT ONE; onecircle  
16396 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
16397 % U+2461 CIRCLED DIGIT TWO; twocircle  
16398 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
16399 % U+2462 CIRCLED DIGIT THREE; threecircle  
16400 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
16401 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
16402 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
16403 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
16404 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
16405 % U+2465 CIRCLED DIGIT SIX; sixcircle  
16406 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
16407 % U+2466 CIRCLED DIGIT SEVEN; sevendigit  
16408 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
16409 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
16410 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
16411 % U+2468 CIRCLED DIGIT NINE; ninecircle  
16412 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
16413 % U+2469 CIRCLED NUMBER TEN; tencircle  
16414 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
16415 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
16416 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
16417 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
16418 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
16419 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
16420 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
16421 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
16422 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
16423 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
16424 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
16425 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
16426 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
16427 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
16428 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
16429 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
16430 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
16431 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
16432 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
16433 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
16434 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
16435 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
16436 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
16437 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
16438 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7

16439 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
 16440 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
 16441 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
 16442 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
 16443 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
 16444 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
 16445 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
 16446 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
 16447 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
 16448 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
 16449 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
 16450 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
 16451 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
 16452 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
 16453 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
 16454 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
 16455 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
 16456 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
 16457 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
 16458 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
 16459 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
 16460 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
 16461 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
 16462 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
 16463 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
 16464 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
 16465 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
 16466 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
 16467 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
 16468 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
 16469 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
 16470 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
 16471 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
 16472 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
 16473 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
 16474 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
 16475 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
 16476 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
 16477 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 16478 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
 16479 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 16480 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 16481 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 16482 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 16483 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 16484 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 16485 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 16486 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 16487 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 16488 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 16489 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 16490 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 16491 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 16492 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 16493 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 16494 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 16495 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle

16496 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 16497 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 16498 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 16499 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 16500 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 16501 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 16502 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 16503 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 16504 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 16505 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 16506 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 16507 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 16508 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 16509 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 16510 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 16511 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 16512 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 16513 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 16514 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 16515 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 16516 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 16517 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 16518 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 16519 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 16520 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 16521 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 16522 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 16523 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 16524 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 16525 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 16526 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 16527 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 16528 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 16529 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 16530 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 16531 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 16532 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 16533 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 16534 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 16535 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 16536 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 16537 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 16538 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 16539 % U+24EA CIRCLED DIGIT ZERO  
 16540 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

### 50.2.21 Box Drawing: U+2500 to U+257F

16541 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
 16542 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6  
 16543 % U+25EF LARGE CIRCLE; largecircle  
 16544 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

### 50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

16545 % U+266A EIGHTH NOTE; musicalnote  
 16546 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 16547 % U+26AD MARRIAGE SYMBOL  
 16548 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD

16549 % U+26AE DIVORCE SYMBOL  
 16550 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

### 50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

16551 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 16552 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6  
 16553 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 16554 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

### 50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

16555 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 16556 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 16557 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 16558 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 50.2.25 Miscellaneous

16559 \DeclareTextCommand{\SS}{PU}{SS}

### 50.2.26 Aliases

Aliases (german.sty)

16560 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}  
 16561 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}  
 16562 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}  
 16563 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}  
 16564 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}  
 16565 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}  
 16566 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}  
 16567 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

16568 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}  
 16569 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}  
 16570 \DeclareTextCommand{\textdiv}{PU}{\textdivide}  
 16571 \DeclareTextCommand{\textpm}{PU}{\textplusminus}  
 16572 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}  
 16573 </puenc>

## 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

16574 <\*puvnenc>  
 16575 \DeclareTextCommand{\abreve}{PU}{\81\003}  
 16576 \DeclareTextCommand{\acircumflex}{PU}{\80\342}  
 16577 \DeclareTextCommand{\dj}{PU}{\81\021}  
 16578 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}  
 16579 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}  
 16580 \DeclareTextCommand{\ohorn}{PU}{\81\241}  
 16581 \DeclareTextCommand{\uhorn}{PU}{\81\260}  
 16582 \DeclareTextCommand{\ABREVE}{PU}{\81\002}  
 16583 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}  
 16584 \DeclareTextCommand{\DJ}{PU}{\81\020}  
 16585 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}  
 16586 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}  
 16587 \DeclareTextCommand{\OHORN}{PU}{\81\240}  
 16588 \DeclareTextCommand{\UHORN}{PU}{\81\257}

16589 \DeclareTextCompositeCommand{'}{PU}{a}{\80\341}  
16590 \DeclareTextCompositeCommand{d}{PU}{a}{\9036\241}  
16591 \DeclareTextCompositeCommand{'}{PU}{a}{\80\340}  
16592 \DeclareTextCompositeCommand{h}{PU}{a}{\9036\243}  
16593 \DeclareTextCompositeCommand{~}{PU}{a}{\80\343}  
16594 \DeclareTextCompositeCommand{'}{PU}{\abreve}{\9036\257}  
16595 \DeclareTextCompositeCommand{d}{PU}{\abreve}{\9036\267}  
16596 \DeclareTextCompositeCommand{'}{PU}{\abreve}{\9036\261}  
16597 \DeclareTextCompositeCommand{h}{PU}{\abreve}{\9036\263}  
16598 \DeclareTextCompositeCommand{~}{PU}{\abreve}{\9036\265}  
16599 \DeclareTextCompositeCommand{'}{PU}{\acircumflex}{\9036\245}  
16600 \DeclareTextCompositeCommand{d}{PU}{\acircumflex}{\9036\255}  
16601 \DeclareTextCompositeCommand{'}{PU}{\acircumflex}{\9036\247}  
16602 \DeclareTextCompositeCommand{h}{PU}{\acircumflex}{\9036\251}  
16603 \DeclareTextCompositeCommand{~}{PU}{\acircumflex}{\9036\253}  
16604 \DeclareTextCompositeCommand{'}{PU}{e}{\80\351}  
16605 \DeclareTextCompositeCommand{d}{PU}{e}{\9036\271}  
16606 \DeclareTextCompositeCommand{'}{PU}{e}{\80\350}  
16607 \DeclareTextCompositeCommand{h}{PU}{e}{\9036\273}  
16608 \DeclareTextCompositeCommand{~}{PU}{e}{\9036\275}  
16609 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\277}  
16610 \DeclareTextCompositeCommand{d}{PU}{\ecircumflex}{\9036\307}  
16611 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\301}  
16612 \DeclareTextCompositeCommand{h}{PU}{\ecircumflex}{\9036\303}  
16613 \DeclareTextCompositeCommand{~}{PU}{\ecircumflex}{\9036\305}  
16614 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}  
16615 \DeclareTextCompositeCommand{d}{PU}{i}{\9036\313}  
16616 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}  
16617 \DeclareTextCompositeCommand{h}{PU}{i}{\9036\311}  
16618 \DeclareTextCompositeCommand{~}{PU}{i}{\81\051}  
16619 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}  
16620 \DeclareTextCompositeCommand{d}{PU}{o}{\9036\315}  
16621 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}  
16622 \DeclareTextCompositeCommand{h}{PU}{o}{\9036\317}  
16623 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}  
16624 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\321}  
16625 \DeclareTextCompositeCommand{d}{PU}{\ocircumflex}{\9036\331}  
16626 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\323}  
16627 \DeclareTextCompositeCommand{h}{PU}{\ocircumflex}{\9036\325}  
16628 \DeclareTextCompositeCommand{~}{PU}{\ocircumflex}{\9036\327}  
16629 \DeclareTextCompositeCommand{'}{PU}{\ohorn}{\9036\333}  
16630 \DeclareTextCompositeCommand{d}{PU}{\ohorn}{\9036\343}  
16631 \DeclareTextCompositeCommand{'}{PU}{\ohorn}{\9036\335}  
16632 \DeclareTextCompositeCommand{h}{PU}{\ohorn}{\9036\337}  
16633 \DeclareTextCompositeCommand{~}{PU}{\ohorn}{\9036\341}  
16634 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}  
16635 \DeclareTextCompositeCommand{d}{PU}{u}{\9036\345}  
16636 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}  
16637 \DeclareTextCompositeCommand{h}{PU}{u}{\9036\347}  
16638 \DeclareTextCompositeCommand{~}{PU}{u}{\81\151}  
16639 \DeclareTextCompositeCommand{'}{PU}{\uhorn}{\9036\351}  
16640 \DeclareTextCompositeCommand{d}{PU}{\uhorn}{\9036\361}  
16641 \DeclareTextCompositeCommand{'}{PU}{\uhorn}{\9036\353}  
16642 \DeclareTextCompositeCommand{h}{PU}{\uhorn}{\9036\355}  
16643 \DeclareTextCompositeCommand{~}{PU}{\uhorn}{\9036\357}  
16644 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375}  
16645 \DeclareTextCompositeCommand{d}{PU}{y}{\9036\365}

16646 \DeclareTextCompositeCommand{'}{PU}{y}{\9036\363}  
16647 \DeclareTextCompositeCommand{h}{PU}{y}{\9036\367}  
16648 \DeclareTextCompositeCommand{~}{PU}{y}{\9036\371}  
16649 \DeclareTextCompositeCommand{'}{PU}{A}{\80\301}  
16650 \DeclareTextCompositeCommand{d}{PU}{A}{\9036\240}  
16651 \DeclareTextCompositeCommand{'}{PU}{A}{\80\300}  
16652 \DeclareTextCompositeCommand{h}{PU}{A}{\9036\242}  
16653 \DeclareTextCompositeCommand{~}{PU}{A}{\80\303}  
16654 \DeclareTextCompositeCommand{'}{PU}{\ABREVE}{\9036\256}  
16655 \DeclareTextCompositeCommand{d}{PU}{\ABREVE}{\9036\266}  
16656 \DeclareTextCompositeCommand{'}{PU}{\ABREVE}{\9036\260}  
16657 \DeclareTextCompositeCommand{h}{PU}{\ABREVE}{\9036\262}  
16658 \DeclareTextCompositeCommand{~}{PU}{\ABREVE}{\9036\264}  
16659 \DeclareTextCompositeCommand{'}{PU}{\ACIRCUMFLEX}{\9036\244}  
16660 \DeclareTextCompositeCommand{d}{PU}{\ACIRCUMFLEX}{\9036\254}  
16661 \DeclareTextCompositeCommand{'}{PU}{\ACIRCUMFLEX}{\9036\246}  
16662 \DeclareTextCompositeCommand{h}{PU}{\ACIRCUMFLEX}{\9036\250}  
16663 \DeclareTextCompositeCommand{~}{PU}{\ACIRCUMFLEX}{\9036\252}  
16664 \DeclareTextCompositeCommand{'}{PU}{E}{\80\311}  
16665 \DeclareTextCompositeCommand{d}{PU}{E}{\9036\270}  
16666 \DeclareTextCompositeCommand{'}{PU}{E}{\80\310}  
16667 \DeclareTextCompositeCommand{h}{PU}{E}{\9036\272}  
16668 \DeclareTextCompositeCommand{~}{PU}{E}{\9036\274}  
16669 \DeclareTextCompositeCommand{'}{PU}{\ECIRCUMFLEX}{\9036\276}  
16670 \DeclareTextCompositeCommand{d}{PU}{\ECIRCUMFLEX}{\9036\306}  
16671 \DeclareTextCompositeCommand{'}{PU}{\ECIRCUMFLEX}{\9036\300}  
16672 \DeclareTextCompositeCommand{h}{PU}{\ECIRCUMFLEX}{\9036\302}  
16673 \DeclareTextCompositeCommand{~}{PU}{\ECIRCUMFLEX}{\9036\304}  
16674 \DeclareTextCompositeCommand{'}{PU}{I}{\80\315}  
16675 \DeclareTextCompositeCommand{d}{PU}{I}{\9036\312}  
16676 \DeclareTextCompositeCommand{'}{PU}{I}{\80\314}  
16677 \DeclareTextCompositeCommand{h}{PU}{I}{\9036\310}  
16678 \DeclareTextCompositeCommand{~}{PU}{I}{\81\050}  
16679 \DeclareTextCompositeCommand{'}{PU}{O}{\80\323}  
16680 \DeclareTextCompositeCommand{d}{PU}{O}{\9036\314}  
16681 \DeclareTextCompositeCommand{'}{PU}{O}{\80\322}  
16682 \DeclareTextCompositeCommand{h}{PU}{O}{\9036\316}  
16683 \DeclareTextCompositeCommand{~}{PU}{O}{\80\325}  
16684 \DeclareTextCompositeCommand{'}{PU}{\OCIRCUMFLEX}{\9036\320}  
16685 \DeclareTextCompositeCommand{d}{PU}{\OCIRCUMFLEX}{\9036\330}  
16686 \DeclareTextCompositeCommand{'}{PU}{\OCIRCUMFLEX}{\9036\322}  
16687 \DeclareTextCompositeCommand{h}{PU}{\OCIRCUMFLEX}{\9036\324}  
16688 \DeclareTextCompositeCommand{~}{PU}{\OCIRCUMFLEX}{\9036\326}  
16689 \DeclareTextCompositeCommand{'}{PU}{\OHORN}{\9036\332}  
16690 \DeclareTextCompositeCommand{d}{PU}{\OHORN}{\9036\342}  
16691 \DeclareTextCompositeCommand{'}{PU}{\OHORN}{\9036\334}  
16692 \DeclareTextCompositeCommand{h}{PU}{\OHORN}{\9036\336}  
16693 \DeclareTextCompositeCommand{~}{PU}{\OHORN}{\9036\340}  
16694 \DeclareTextCompositeCommand{'}{PU}{U}{\80\332}  
16695 \DeclareTextCompositeCommand{d}{PU}{U}{\9036\344}  
16696 \DeclareTextCompositeCommand{'}{PU}{U}{\80\331}  
16697 \DeclareTextCompositeCommand{h}{PU}{U}{\9036\346}  
16698 \DeclareTextCompositeCommand{~}{PU}{U}{\81\150}  
16699 \DeclareTextCompositeCommand{'}{PU}{\UHORN}{\9036\350}  
16700 \DeclareTextCompositeCommand{d}{PU}{\UHORN}{\9036\360}  
16701 \DeclareTextCompositeCommand{'}{PU}{\UHORN}{\9036\352}  
16702 \DeclareTextCompositeCommand{h}{PU}{\UHORN}{\9036\354}

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16703 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
16704 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
16705 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
16706 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
16707 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
16708 \DeclareTextCompositeCommand{\-}{PU}{Y}{\9036\370}
16709 </puvnc>

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## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

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16710 <*puarenc>
16711 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afi57409;ARABIC LET-
    TER HAMZA
16712 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afi57410;ARABIC LET-
    TER ALEF WITH MADDA ABOVE
16713 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afi57411;ARABIC LET-
    TER ALEF WITH HAMZA ABOVE
16714 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afi57412;ARABIC LET-
    TER WAW WITH HAMZA ABOVE
16715 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afi57413;ARABIC LET-
    TER ALEF WITH HAMZA BELOW
16716 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afi57414;ARABIC LET-
    TER YEH WITH HAMZA ABOVE
16717 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afi57415;ARABIC LETTER ALEF
16718 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afi57416;ARABIC LETTER BEH
16719 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afi57417;ARABIC LETTER TEH MARBUTA
16720 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afi57418;ARABIC LETTER TEH
16721 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afi57419;ARABIC LET-
    TER THEH
16722 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afi57420;ARABIC LET-
    TER JEEM
16723 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afi57421;ARABIC LETTER HAH
16724 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afi57422;ARABIC LETTER KHAH
16725 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afi57423;ARABIC LETTER DAL
16726 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afi57424;ARABIC LETTER THAL
16727 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afi57425;ARABIC LETTER REH
16728 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afi57426;ARABIC LETTER ZAIN
16729 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afi57427;ARABIC LETTER SEEN
16730 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afi57428;ARABIC LET-
    TER SHEEN
16731 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afi57429;ARABIC LETTER SAD
16732 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afi57430;ARABIC LETTER DAD
16733 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afi57431;ARABIC LETTER TAH
16734 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afi57432;ARABIC LETTER ZAH
16735 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afi57433;ARABIC LETTER AIN
16736 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afi57434;ARABIC LET-
    TER GHAIN
16737 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afi57440;ARABIC TATWEEL
16738 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afi57441;ARABIC LETTER FEH
16739 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afi57442;ARABIC LETTER QAF
16740 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afi57443;ARABIC LETTER KAF
16741 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afi57444;ARABIC LETTER LAM
16742 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afi57445;ARABIC LET-
    TER MEEM
16743 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afi57446;ARABIC LETTER NOON

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16744 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afi57470;ARABIC LETTER HEH
16745 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afi57448;ARABIC LETTER WAW
16746 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afi57449;ARABIC LET-
TER ALEF MAKSURA
16747 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afi57450;ARABIC LETTER YEH
16748 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afi57451;ARABIC FATHATAN
16749 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afi57452;ARABIC DAMMATAN
16750 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afi57453;ARABIC KASRATAN
16751 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afi57454;ARABIC FATHA
16752 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afi57455;ARABIC DAMMA
16753 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afi57456;ARABIC KASRA
16754 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afi57457;ARABIC SHADDA
16755 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afi57458;ARABIC SUKUN

Farsi
16756 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afi57506;ARABIC LETTER PEH
16757 \DeclareTextCommand{\tchah}{PU}{\86\206}% 0686;afi57507;ARABIC LET-
TER TCHEH
16758 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH
16759 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LET-
TER KAF
16760 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF
16761 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-
TER YEH

16762 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
16763 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
16764 \puarenc

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## 51 End of file hyccheck.tex

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16765 \check
16766 \typeout{}
16767 \begin{document}
16768 \end{document}
16769 \check

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