

# 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 hycheck.tex

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

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

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

```
4 \newcommand*{\checklatex}[1]{}{
5   \typeout{}%
6   \typeout{* Format: 'LaTeX2e' #1}%
7   \typeout{\space\space Loaded: '\fmtname' \fmtversion}%
8 }%
```

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

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

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

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

`\HyC@checkPackage`

```
18 \def\HyC@checkPackage{%
19  \typeout{}%
20  \begingroup
21  \edef\x{\endgroup
22    \noexpand\RequirePackage{\HyC@package}%
23    \ifx\HyC@date\@empty\relax\else\HyC@date\fi%
24  }%
25  \x
26  \typeout{}%
27  \typeout{%
28    * Package '\HyC@package'%
29    \ifx\HyC@date\@empty
30      \else
31        \space\HyC@date
32      \fi
33  }%
34  \@ifundefined{ver@\HyC@package.sty}{%
35  }{%
36    \typeout{%
37      \space\space Loaded: '\HyC@package' %
38      \cname ver@\HyC@package.sty\endcsname
39    }%
```

```

40 }%
41 }

```

`\checkcommand` The macro `\checkcommand` parses the next tokens as a L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X's definitions is parsed.

```

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

```

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

```

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

```

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}

```



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

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

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

```
90 \newtoks\HyC@Toks
```

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

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

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

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

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

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

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

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

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

`\HyC@edef`

```

125 \def\HyC@def#1#{%
126   \HyC@Toks={#1}%
127   \HyC@nc@noopt
128 }
129 \let\HyC@edef\HyC@def

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

`\HyC@meaning`

```

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

```

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

```

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

```

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

```

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

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

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

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

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

\Hy@SetCatcodes

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

\Hy@RestoreCatcodes

```
205 \begingroup
206 \def\x#1{\catcode'\noexpand#1=\the\catcode'#1\relax}%
207 \xdef\Hy@RestoreCatcodes{%
208   \the\toks@
209   \x\$%
```

```

210 \x\&%
211 \x\^%
212 \x\_%
213 \x\|%
214 \x\:%
215 \x\( %
216 \x\) %
217 \x\[ %
218 \x\] %
219 \x\/%
220 \x\!%
221 \x\<%
222 \x\>%
223 \x\.%
224 \x\;%
225 \x\+%
226 \x\-%
227 \x\"%
228 \x\'%
229 }%
230 \endgroup

```

```

231 \Hy@SetCatcodes

```

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

Use package `hobsub-hyperref` for faster package loading.

```

232 \IfFileExists{hobsub-hyperref.sty}{%
233 \RequirePackage{hobsub-hyperref}[2011/01/30]%
234 }{}

235 \RequirePackage{ltxcmds}[2010/10/25]
236 \RequirePackage{ifpdf}[2006/02/20]
237 \RequirePackage{pdftexcmds}[2009/04/10]
238 \@ifpackagelater{pdftexcmds}{2010/11/04}{%}{%
239 \ltx@ifundefined{pdfdraftmode}{%
240 \let\pdf@ifdraftmode\ltx@secondoftwo
241 }{%
242 \ifpdf
243 \def\pdf@ifdraftmode{%
244 \ifnum\pdfdraftmode=\ltx@one
245 \expandafter\ltx@firstoftwo
246 \else
247 \expandafter\ltx@secondoftwo
248 \fi
249 }%
250 \else
251 \let\pdf@ifdraftmode\ltx@secondoftwo
252 \fi
253 }%
254 }

255 \RequirePackage{infwarerr}[2010/04/08]
256 \RequirePackage{keyval}[1997/11/10]
257 \RequirePackage{kvsetkeys}[2007/09/29]
258 \RequirePackage{pdfescape}[2007/11/11]
259 \RequirePackage{ifvtex}
260 \RequirePackage{ifxetex}[2006/08/21]

```

```

261 \RequirePackage{hycolor}
262 \RequirePackage{letltxmacro}[2008/06/13]
263 \RequirePackage{auxhook}[2009/12/14]
264 \def\Hy@Error{\@PackageError{hyperref}}
265 \def\Hy@Warning{\@PackageWarning{hyperref}}
266 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
267 \def\Hy@Info{\@PackageInfo{hyperref}}
268 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
269 \def\Hy@Message#1{%
270   \GenericWarning{%
271     (hyperref)\@spaces\@spaces\@spaces\@spaces
272   }{%
273     Package hyperref Message: #1\ltx@gobble
274   }%
275 }

```

## 4.2 Version check

\Hy@VersionChecked

```

276 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

277 \def\Hy@VersionCheck#1{%
278   \begingroup
279   \ltx@ifundefined{ver@hyperref.sty}{%
280     \Hy@Error{%
281       This should not happen!\MessageBreak
282       Missing hyperref version%
283     }\@ehd
284   }{%
285     \ltx@ifundefined{ver@#1}{%
286       \Hy@Error{%
287         This should not happen!\MessageBreak
288         Missing version of '#1'%
289       }\@ehd
290     }{%
291       \def\x##1##2##3{%
292         \expandafter\expandafter\expandafter\Hy@@VersionCheck
293         \expandafter\expandafter\expandafter##2%
294         \csname ver@##3\endcsname##1##1\@nil
295       }%
296       \x{ }\y{hyperref.sty}%
297       \x{ }\z{#1}%
298       \ifx\y\z
299         \else
300         \Hy@Error{%
301           Version mismatch!\MessageBreak
302           * \y: hyperref.sty\MessageBreak
303           * \z: #1%
304         }\@ehd
305       \fi
306     }%
307   }%
308   \endgroup
309   \chardef\Hy@VersionChecked=1 %
310 }

```

\Hy@@VersionCheck

```
311 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%
312   \def#1{#2 #3}%
313 }
```

### 4.3 Checks with regular expressions

```
314 \ltx@ifundefined{pdfmatch}{}%
315   \let\Hy@Match\ltx@gobblefour
316 }{%
317   \def\Hy@Match#1#2{%
318     \begingroup
319     \edef\~{\ltx@backslashchar\string~}%
320     \edef\.{\ltx@backslashchar.}%
321     \edef\[\{\ltx@backslashchar[]}%
322     \edef\$\{\ltx@backslashchar$\}%
323     \edef\(\{\ltx@backslashchar(%
324     \edef\)\{\ltx@backslashchar)%
325     \edef\|\{\ltx@backslashchar|}%
326     \edef\*\{\ltx@backslashchar*}%
327     \edef\+\{\ltx@backslashchar+}%
328     \edef\?\{\ltx@backslashchar?}%
329     \edef\{\{\ltx@backslashchar\ltx@leftbracechar}%
330     \edef\}\{\ltx@rightbracechar}%
331     \edef\\{\ltx@backslashchar\ltx@backslashchar}%
332     \let\ \ltx@space
333     \ifcase\pdfmatch{#2}{#1} %
334       \endgroup
335       \expandafter\ltx@secondoftwo
336     \or
337       \endgroup
338       \expandafter\ltx@firstoftwo
339     \else
340       \Hy@Warning{%
341         Internal error: Wrong pattern!\MessageBreak
342         --> #2 <--\MessageBreak
343         Pattern check ignored%
344       }%
345       \endgroup
346       \expandafter\ltx@firstoftwo
347     \fi
348   }%
349   \ltx@ifpackagelater{ltxcmds}{2010/09/11}{}{}%
350   \begingroup
351     \lccode'0='\relax
352   \lowercase{\endgroup
353     \def\ltx@leftbracechar{0}%
354   }%
355   \begingroup
356     \lccode'0='\relax
357   \lowercase{\endgroup
358     \def\ltx@rightbracechar{0}%
359   }%
360 }%
```

## 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 L<sup>A</sup>T<sub>E</sub>X processing.

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

```
362 \@ifundefined{AfterBeginDocument}{%
363   \def\AfterBeginDocument{\AtBeginDocument}%
364 }{}%
```

`\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.

```
365 \def\Hy@AtBeginDocument{%
366   \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
367 }
```

`\Hy@AtEndOfPackage`

```
368 \def\Hy@AtEndOfPackage{%
369   \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
370 }
```

`\Hy@AtBeginDocumentHook`

```
371 \let\Hy@AtBeginDocumentHook\ltx@empty
```

`\Hy@AtEndOfPackageHook`

```
372 \let\Hy@AtEndOfPackageHook\ltx@empty
```

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

```
373 \AtEndOfPackage{%
374   \Hy@AtEndOfPackageHook
375   \let\Hy@AtEndOfPackageHook\@undefined
376   \AfterBeginDocument{%
377     \Hy@AtBeginDocumentHook}%
378   \let\Hy@AtBeginDocumentHook\@undefined
379 }%
380 }
```

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

```
381 \RequirePackage{kvoptions}[2009/07/21]
```

## 4.5 Switches

```
382 \newif\ifHy@stoppeearly
383 \newif\ifHy@typexml
384 \newif\ifHy@activeanchor
385 \newif\ifHy@backref
386 \newif\ifHy@bookmarks
387 \newif\ifHy@bookmarksnumbered
388 \newif\ifHy@bookmarksopen
389 \newif\ifHy@breaklinks
```

```

390 \newif\ifHy@pdfcenterwindow
391 \newif\ifHy@CJKbookmarks
392 \newif\ifHy@colorlinks
393 \newif\ifHy@destlabel
394 \newif\ifHy@draft
395 \let\Hy@finaltrue\Hy@draftfalse
396 \let\Hy@finalfalse\Hy@drafttrue
397 \newif\ifHy@pdfescapeform
398 \newif\ifHy@hyperfigures
399 \newif\ifHy@pdffitwindow
400 \newif\ifHy@frenchlinks
401 \newif\ifHy@hyperfootnotes
402 \newif\ifHy@hyperindex
403 \newif\ifHy@hypertextnames
404 \newif\ifHy@implicit
405 \newif\ifHy@linktocpage
406 \newif\ifHy@localanchorname
407 \newif\ifHy@pdfmenubar
408 \newif\ifHy@naturalnames
409 \newif\ifHy@nesting
410 \newif\ifHy@pdfnewwindowset
411 \newif\ifHy@pdfnewwindow
412 \newif\ifHy@ocgcolorlinks
413 \newif\ifHy@pageanchor
414 \newif\ifHy@pdfpagelabels
415 \newif\ifHy@pdfpagehidden
416 \newif\ifHy@pdfstring
417 \newif\ifHy@plainpages
418 \newif\ifHy@psize
419 \newif\ifHy@raiselinks
420 \newif\ifHy@seminarslides
421 \newif\ifHy@setpagesize
422 \newif\ifHy@texht
423 \newif\ifHy@psdextra
424 \newif\ifHy@pdftoolbar
425 \newif\ifHy@unicode
426 \newif\ifHy@pdfusetitle
427 \newif\ifHy@verbose
428 \let\Hy@debugtrue\Hy@verbosetrue
429 \let\Hy@debugfalse\Hy@verbosefalse
430 \newif\ifHy@pdfwindowui
431 \newif\ifHy@pdfdisplaydoctitle
432 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

433 \Hy@backreffalse
434 \Hy@bookmarksnumberedfalse
435 \Hy@bookmarksopenfalse
436 \Hy@bookmarksstrue
437 \Hy@breaklinksfalse
438 \Hy@pdfcenterwindowfalse
439 \Hy@CJKbookmarksfalse
440 \Hy@destlabelfalse
441 \Hy@pdfescapeformfalse
442 \Hy@hyperfiguresfalse
443 \Hy@pdffitwindowfalse
444 \Hy@hyperfootnotetrue
445 \Hy@hyperindextrue

```



```

446 \Hy@hypertextnamestrue
447 \Hy@implicitttrue
448 \Hy@linktocpagefalse
449 \Hy@localanchornamefalse
450 \Hy@pdfmenubartrue
451 \Hy@naturalnamesfalse
452 \Hy@nestingfalse
453 \Hy@pdfnewwindowsetfalse
454 \Hy@pdfnewwindowfalse
455 \Hy@pageanchortrue
456 \Hy@pdfpagelabelstrue
457 \Hy@pdfpagehiddenfalse
458 \Hy@pdfstringfalse
459 \Hy@plainpagesfalse
460 \Hy@raiselinksfalse
461 \Hy@setpagesizetrue
462 \Hy@texhtfalse
463 \Hy@psdextrafalse
464 \Hy@pdftoolbartrue
465 \Hy@typexmlfalse
466 \Hy@unicodefalse
467 \Hy@pdfusetitlefalse
468 \Hy@verbosefalse
469 \Hy@pdfwindowuitrue
470 \Hy@pdfdisplaydoctitlefalse
471 \Hy@pdfafalse

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

474 \newdimen\@linkdim
475 \let\Hy@driver\ltx@empty
476 \let\MaybeStopEarly\relax
477 \newcount\Hy@linkcounter
478 \newcount\Hy@pagecounter
479 \Hy@linkcounter0
480 \Hy@pagecounter0

```

### 5.1 Macros for recursions

```

481 \let\Hy@ReturnEnd\@empty
482 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
483 \long\def\Hy@ReturnAfterElseFiFiEnd#1\else#2\Hy@ReturnEnd{\fi\fi#1}

```

### 5.2 Babel's protection of shorthand characters

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

\Hy@safe@activesfalse

```

484 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
485 \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`

```
486 \begingroup\expandafter\expandafter\expandafter\endgroup
487 \expandafter\ifx\csname dimexpr\endcsname\relax
488   \def\hypercalcbpdef#1#2{%
489     \begingroup
490       \toks@{}%
491       \HyCal@scan#2\hypercalcbp\@nil
492     \expandafter\endgroup
493     \expandafter\def\expandafter#1\expandafter{\the\toks@}%
494   }%
495   \def\HyCal@scan#1\hypercalcbp#2\@nil{%
496     \toks@\expandafter{\the\toks@ #1}%
497     \ifx\#2\%
498       \else
499         \ltx@ReturnAfterFi{%
500           \HyCal@do#2\@nil
501         }%
502       \fi
503     }%
504   \def\HyCal@do#1#2\@nil{%
505     \@ifpackageloaded{calc}{%}{%
506       \Hy@Warning{%
507         For calculations \string\hypercalcbp\space needs\MessageBreak
508         package calc or e-TeX%
509       }%
510     }%
```

```

511 \setlength{\dimen@}{#1}%
512 \setlength{\dimen@}{0.99626401\dimen@}%
513 \edef\x{%
514   \toks@{%
515     \the\toks@
516     \strip@pt\dimen@
517   }%
518 } \x
519 \HyCal@scan#2\@nil
520 }%
521 \else
522 \def\hypercalcbp#1{%
523   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
524 }%
525 \def\hypercalcbpdef{\def}%
526 \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 <code>ddd</code>
- Strings are stored either in `PDFDocEncoding`, which is a superset of ISO-Latin1 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 `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 `TEX` interpreter!

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

1. Preprocessing. Here the expansion is prepared. The encoding is set and many commands are redefined, so that they work appropriate.

2. Expansion. The  $\text{\TeX}$  string is expanded the first time to get a PDF string.
3. Postprocessing. The result of the expansion is checked and converted to the final form.

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

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

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

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

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

```
528 \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  $\text{\TeX}$  escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard  $\text{\LaTeX}$  behaviour.

```
529 \escapechar'\%
```

From the view of  $\text{\TeX}$  an 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 these short commands does not apply.

```
530 \edef\0{\string\0}%
531 \edef\1{\string\1}%
532 \edef\2{\string\2}%
533 \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.

```
534 \ifHy@unicode
535 \edef\8{\string\8}%
536 \edef\9{\string\9}%
```

```

537 \fontencoding{PU}%
538 \HyPsd@UTFviii
539 \def\ifpdfstringunicode##1##2{##1}%
540 \else
541 \fontencoding{PD1}%
542 \def\ifpdfstringunicode##1##2{##2}%
543 \fi
544 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
545 \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).

```

546 \@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).

```

547 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

548 \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.

```

549 \let\{\textbraceleft
550 \let\}\textbraceright
551 \let\\\textbackslash
552 \let\#\textnumbersign
553 \let\$\textdollar
554 \let\%\textpercent
555 \let\&\textampersand
556 % \let\~\textasciitilde
557 \let\_ \textunderscore
558 \let\P\textparagraph
559 \let\ldots\textellipsis
560 \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.

```
561 \def\{\pdfstringdefWarn\}%
562 \def\newline{\pdfstringdefWarn\newline}%
```

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

```
563 \def\TeX{\TeX}%
564 \def\LaTeX{\LaTeX}%
565 \def\LaTeXe{%
566   \LaTeX2%
567   \ifHy@unicode\textepsilon\else e\fi
568 }%
569 \def\eTeX{%
570   \ifHy@unicode\textepsilon\else e\fi
571   -\TeX%
572 }%
573 \def\SliTeX{\SliTeX}%
574 \def\MF{Metafont}%
575 \def\MP{Metapost}%
```

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

```
576 \let\fontencoding\@gobble
577 \let\fontfamily\@gobble
578 \let\fontseries\@gobble
579 \let\fontshape\@gobble
580 \let\fontsize\@gobbletwo
581 \let\selectfont\@empty
582 \let\usefont\@gobblefour
583 \let\emph\@firstofone
584 \let\textnormal\@firstofone
585 \let\textrm\@firstofone
586 \let\textsf\@firstofone
587 \let\texttt\@firstofone
588 \let\textbf\@firstofone
589 \let\textmd\@firstofone
590 \let\textit\@firstofone
591 \let\textsc\@firstofone
592 \let\textsl\@firstofone
593 \let\textup\@firstofone
594 \let\normalfont\@empty
595 \let\rmfamily\@empty
596 \let\sffamily\@empty
597 \let\ttfamily\@empty
598 \let\bfseries\@empty
599 \let\mdseries\@empty
600 \let\itshape\@empty
601 \let\scshape\@empty
602 \let\slshape\@empty
603 \let\upshape\@empty
604 \let\em\@empty
605 \let\rm\@empty
606 \let\Huge\@empty
607 \let\LARGE\@empty
608 \let\Large\@empty
```

```

609 \let\footnotesize\@empty
610 \let\huge\@empty
611 \let\large\@empty
612 \let\normalsize\@empty
613 \let\scriptsize\@empty
614 \let\small\@empty
615 \let\tiny\@empty
616 \let\mathversion\@gobble
617 \let\phantom\@gobble
618 \let\vphantom\@gobble
619 \let\hphantom\@gobble

```

### Package pifont.

```

620 \let\ding\HyPsd@ding
621 \let\Cube\HyPsd@DieFace
622 %* \HyPsd@DieFace -> \epsdice (epsdice)
623 %* \HyPsd@DieFace -> \fcdice (hhcount)

```

### Environments.

```

624 \def\begin#1{\csname#1\endcsname}%
625 \def\end#1{\csname end#1\endcsname}%

```

### Package color.

```

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

```

### Upper- and lowercase.

```

627 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
628 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

**Support of math commands without prefix text.** This is controlled by option “psdextra” and only activated with Unicode PDF strings.

```

629 \ifHy@psdextra
630 \ifHy@unicode
631 \csname psdmapshortnames\endcsname
632 \csname psdaliasnames\endcsname
633 \fi
634 \fi

```

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

```

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

```

Disable `\cyr`, used in `russianb.ldf`.  
646 `\let\cyr\relax`  
Redefine `\es@roman`, used in `spanish.ldf`.  
647 `\let\es@roman\@Roman`

**Package `german`.**

648 `\let\glqq\textglqq`  
649 `\let\grqq\textgrqq`  
650 `\let\glq\textglq`  
651 `\let\grq\textgrq`  
652 `\let\flqq\textflqq`  
653 `\let\frqq\textfrqq`  
654 `\let\flq\textflq`  
655 `\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}`  
656 `\let\if@mid@expandable\@firstoftwo`

**AMS classes.**

657 `\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.

658 `\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.

659 `\let\label\@gobble`  
660 `\let\index\@gobble`  
661 `\let\glossary\@gobble`  
662 `\let\href\HyPsd@href`  
663 `\let\@mkboth\@gobbletwo`

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

664 `\let\ref\HyPsd@ref`  
665 `\let\pageref\HyPsd@pageref`  
666 `\let\nameref\HyPsd@nameref`  
667 `\let\autoref\HyPsd@autoref`

**Miscellaneous commands.**

668 `\let\leavevmode\@empty`  
669 `\let\mbox\@empty`

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

670 `\def\halign{\pdfstringdefWarn\halign\@gobble}%`  
671 `\let\ignorespaces\HyPsd@ignorespaces`  
672 `\let\Hy@SectionAnchorHref\@gobble`  
673 `\let\ensuremath\@firstofone`



### Patch for cjk bookmarks.

```
674 \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`).

```
675 \Hy@pdfstringtrue
676 \pdfstringdefPreHook
```

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

```
677 \HyPsd@LetUnexpandableSpace\space
678 \HyPsd@LetUnexpandableSpace\ %
679 \HyPsd@LetUnexpandableSpace-%
680 \HyPsd@LetUnexpandableSpace\nobreakspace
```

### Package xspace.

```
681 \ltx@ifundefined{@xspace}{%
682 \let\xspace\HyPsd@ITALCORR
683 }{%
684 \let\xspace\HyPsd@XSPACE
685 }%
686 \let\/\HyPsd@ITALCORR
687 \let\bgroup\/%
688 \let\egroup\/%
```

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

```
689 \let\discretionary\@gobbletwo
```

`\@ifstar` is defined in  $\text{\LaTeX}$  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:

```
690 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
691 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
692 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
693 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'args':

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

### 6.2.2 Expansion

There are several possibilities to expand tokens within  $\text{\LaTeX}$ :

**$\text{\protected@edef}$ :** The weakest form isn't usable, because it does not expand the font encoding commands. They are made robust and protect themselves.

**$\text{\csname}$ :** First the string is expanded within a  $\text{\csname}$  and  $\text{\endcsname}$ . Then the command name is converted to characters with catcode 12 by  $\text{\string}$  and the first escape character removed by  $\text{\@gobble}$ . This method has the great *advantage* that stomach tokens that aren't allowed in PDF strings are detected by  $\text{\TeX}$  and reported as errors in order to force the user to write correct things. So he get no wrong results by forgetting the proofreading of his text. But the *disadvantage* is that old wrong code cannot processed without errors. Mainly the error message is very cryptic and for the normal user hard to understand.  $\text{\TeX}$  provides no way to catch the error caused by  $\text{\csname}$  or allows to support the user with a descriptive error message. Therefore the experienced user had to enable this behaviour by an option  **$\text{\exactdef}$**  in previous versions less or equal 6.50.

**$\text{\edef}$**  This version uses this standard form for expansion. It is stronger than  $\text{\LaTeX}$ 's  $\text{\protected@edef}$ . 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  $\text{\LaTeX}$  doesn't work within an  $\text{\edef}$ , 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  $\text{\texorpdfstring}$ ). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with  $\text{\csname}$ . However a PDF reader isn't  $\text{\TeX}$ , so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning for the user. As additional features xspace support is possible and grouping characters can be used without problems, because they are removed silently.

**Generic messages.** While expanding via  $\text{\xdef}$  the  $\text{\Generic...}$  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,  $\text{\pdfstringdef}$  is slow enough).

```
695 \begingroup
696 \let\GenericError\@gobblefour
697 \let\GenericWarning\@gobbletwo
698 \let\GenericInfo\@gobbletwo
```

**Package french.** This fix only works, if  $\text{\GenericError}$  is disabled.

```
699 \ifx\nofrenchguillemets\@undefined
700 \else
701 \nofrenchguillemets
702 \fi
```

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

```
703 \let\Hy@temp\xdef
```

```

704 \let\def\HyPsd@DefCommand
705 \let\gdef\HyPsd@DefCommand
706 \let\edef\HyPsd@DefCommand
707 \let\xdef\HyPsd@DefCommand
708 \let\futurelet\HyPsd@LetCommand
709 \let\let\HyPsd@LetCommand
710 \Hy@temp#1{#2}%
711 \endgroup

```

### 6.2.3 Postprocessing

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

```

712 \ifx#1\@empty
713 \else

```

**Protecting spaces and removing grouping characters.** In order to check the tokens we must separate them. This will be done with  $\TeX$ 's argument parsing. With this method we must take the following item into account, that makes things a little more complicate:

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

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

```

714 \HyPsd@ProtectSpaces#1%
715 \let\HyPsd@String\@empty
716 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
717 \global\let#1\HyPsd@String

```

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

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

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

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

```

718 \let\HyPsd@SPACEOPTI\relax
719 {%
720 \let\HyPsd@String\@empty
721 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
722 \global\let#1\HyPsd@String
723 }%
724 \expandafter\HyPsd@RemoveMask\expandafter
725 |\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.

```

726 \expandafter
727 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
728 \let\HyPsd@String\@empty
729 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
730 \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.

```
731 \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.

```

732 \ifHy@unicode
733 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
734 \HyPsd@SPACEOPTI#1%
735 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
736 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
737 {\HyPsd@SPACEOPTI\80\273}#1%
738 \else
739 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
740 \expandafter\HyPsd@Subst\expandafter{%
741 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
742 \string\273}{\HyPsd@SPACEOPTI\273}#1%
743 \fi
```

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

```

744 \ifHy@unicode
745 \HyPsd@StringSubst{\)}{\80\051}#1%
746 \HyPsd@Subst){\80\051}#1%
747 \let\HyPsd@empty\relax
748 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
749 {\HyPsd@empty\80\051}#1%
750 \else
751 \HyPsd@StringSubst{\)}{\051}#1%
752 \HyPsd@Subst){\051}#1%
753 \let\HyPsd@empty\relax
754 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
755 \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`.

```

756 \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
757 \ltx@ifundefined{@xspace}{%
758 }{%
759 \let\HyPsd@xspace\relax
760 \expandafter\HyPsd@Subst\expandafter
761 {\HyPsd@XSPACE}\HyPsd@xspace#1%
762 \let\HyPsd@xspace\HyPsd@doxspace
763 }%
764 \xdef#1{#1\HyPsd@empty}%

```

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

Since newer AcrobatReader versions now show the `en-` and `emdash` in a correct way (AR7/Linux, AR8/Linux), the substitution code for them is enabled starting with version 6.78l.

```

765 \HyPsd@Subst{---}\textemdash#1%
766 \HyPsd@Subst{--}\textendash#1%

```

```

767 %    \HyPsd@Subst{fi}\textfi#1%
768 %    \HyPsd@Subst{fi}\textfi#1%
769 \HyPsd@Subst{!}\textexclamdown#1%
770 \HyPsd@Subst{?}\textquestiondown#1%

```

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

```

771 \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.

```

772 \ifHy@unicode
773 \HyPsd@StringSubst\(\textparenleft#1%
774 \HyPsd@Subst\(\textparenleft#1%
775 \else
776 \HyPsd@StringSubst\({\050}#1%
777 \HyPsd@Subst\({\050}#1%
778 \HyPsd@StringSubst{\050}\string\{ }#1%
779 \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.

```

780 \ifHy@unicode
781 \edef\HyPsd@SPACEOPTI{\80\040}%
782 \else
783 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
784 \fi
785 \xdef#1{#1\@empty}%
786 \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.

```

787 \endgroup
788 \begingroup
789 \ifHy@unicode
790 \HyPsd@ConvertToUnicode#1%

```

**Try conversion back to `PDFDocEncoding`.**

```

791 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
792 \ltx@ifundefined{StringEncodingConvertTest}{%
793 }{%
794 \EdefUnescapeString\HyPsd@temp#1%
795 \ifxetex
796 \let\HyPsd@UnescapedString\HyPsd@temp
797 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
798 {utf16be}{ascii-print}{%
799 \EdefEscapeString\HyPsd@temp\HyPsd@temp
800 \global\let#1\HyPsd@temp
801 \HyPsd@EscapeTeX#1%
802 \Hy@unicodedefalse

```

```

803     }{%
804     \HyPsd@ToBigChars#1%
805     }%
806   \else
807     \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
808         {utf16be}{pdfdoc}{%
809     \EdefEscapeString\HyPsd@temp\HyPsd@temp
810     \global\let#1\HyPsd@temp
811     \HyPsd@EscapeTeX#1%
812     \Hy@unicodedefalse
813     }{%}%
814   \fi
815   }%
816 \fi
817 \fi
818 \HyPsd@XeTeXBigCharsfalse

```

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

```

819   \pdfstringdefPostHook#1%
820 \endgroup
821 }

```

`\Hy@pdfstringdef`

```

822 \def\Hy@pdfstringdef#1#2{%
823   \pdfstringdef\Hy@gtemp{#2}%
824   \let#1\Hy@gtemp
825 }

```

## 6.3 Encodings

### 6.3.1 XeTeX

```

826 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
827 \catcode\z@=12 %
828 \ifxetex
829   \expandafter\@firstofone
830 \else
831   \let\HyPsd@XeTeXBigCharstrue\@empty
832   \let\HyPsd@XeTeXBigCharsfalse\@empty
833   \expandafter\@gobble
834 \fi
835 {%
836   \newif\ifHyPsd@XeTeXBigChars
837   \def\HyPsd@XeTeXBigCharsfalse{%
838     \global\let\ifHyPsd@XeTeXBigChars\iffalse
839   }%
840   \def\HyPsd@XeTeXBigCharstrue{%
841     \global\let\ifHyPsd@XeTeXBigChars\iftrue
842   }%
843   \def\HyPsd@ToBigChars#1{%
844     \ifHyPsd@XeTeXBigChars
845       \EdefEscapeHex\HyPsd@UnescapedString{%
846         \expandafter\@gobbletwo\HyPsd@UnescapedString
847       }%
848     \begingroup
849     \toks@{}%

```

```

850 \escapechar=92\relax
851 \let\x\HyPsd@ToBigChar
852 \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
853 \relax\relax\relax\relax\relax\relax\relax
854 \edef\x{%
855 \endgroup
856 \gdef\noexpand#1{\the\toks@}%
857 }%
858 \x
859 \fi
860 }%
861 \def\HyPsd@ToBigChar#1#2#3#4{%
862 \ifx\relax#1\relax
863 \let\x\relax
864 \else
865 \count@=#1#2#3#4\relax
866 \let\y\@empty
867 \lccode\z@=\count@
868 \ifnum\count@=40 % (
869 \let\y\@backslashchar
870 \else
871 \ifnum\count@=41 % )
872 \let\y\@backslashchar
873 \else
874 \ifnum\count@=92 % backslash
875 \let\y\@backslashchar
876 \else
877 \ifnum\count@=10 % newline
878 \edef\y##1{\string\n}%
879 \else
880 \ifnum\count@=13 % carriage return
881 \edef\y##1{\string\r}%
882 \fi
883 \fi
884 \fi
885 \fi
886 \fi
887 \lowercase{%
888 \toks@\expandafter{%
889 \the\expandafter\toks@
890 \y
891 ^^@%
892 }%
893 }%
894 \fi
895 \x
896 }%
897 }
898 \Hy@temp

```

### 6.3.2 Workaround for package linguex

```

899 \@ifpackageloaded{linguex}{%
900 \let\HyLinguex@OrgB\b
901 \let\HyLinguex@OrgC\c
902 \let\HyLinguex@OrgD\d
903 \def\HyLinguex@Restore{%
904 \let\b\HyLinguex@OrgB

```



```

905 \let\c\HyLinguex@OrgC
906 \let\d\HyLinguex@OrgD
907 }%
908 \Hy@AtEndOfPackage{%
909 \pdfstringdefDisableCommands{%
910 \ltx@ifundefined{oldb}{\let\b\oldb}%
911 \ltx@ifundefined{oldc}{\let\c\oldc}%
912 \ltx@ifundefined{oldd}{\let\d\oldd}%
913 }%
914 }%
915 }{%
916 \let\HyLinguex@Restore\relax
917 }%

```

### 6.3.3 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with  $\text{\LaTeX}$  2 $\epsilon$ 's NFSS. Because the informational strings are not set by  $\text{\TeX}$ 's typesetting mechanism but for 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  $\text{\TeX}$  does not process it anyway. So use CM.

```

918 \@ifundefined{T@PD1}{%
919 \input{pd1enc.def}%
920 \HyLinguex@Restore
921 }{}
922 \DeclareFontFamily{PD1}{pdf}{}
923 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
924 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

### 6.3.4 PU encoding

The PU encoding implements the Unicode encoding for use with  $\text{\LaTeX}$ '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@LoadUnicode` Because the file `puenc.def` takes a lot of memory, the loading is defined in the macro `\HyPsd@LoadUnicode` called by the package option `unicode`.

```

925 \def\HyPsd@LoadUnicode{%
926 \@ifundefined{T@PU}{%
927 \input{puenc.def}%
928 \HyLinguex@Restore
929 }{}%
930 \DeclareFontFamily{PU}{pdf}{}%
931 \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
932 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
933 \input{psdextra.def}%
934 \let\HyPsd@LoadUnicode\relax
935 }

```

## 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 expandible macro `\texorpdfstring`. It expects two ar-

guments, 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.

```

936 \def\texorpdfstring{%
937   \ifHy@pdfstring
938     \expandafter\@secondoftwo
939   \else
940     \expandafter\@firstoftwo
941   \fi
942 }
```

#### 6.4.2 Hooks for `\pdfstringdef`

`\pdfstringdefPreHook` Default definition of the hooks for `\pdfstringdef`. The construct `\@ifundefined`  
`\pdfstringdefPostHook` with `\let` is a little bit faster than `\providecommand`.

```

943 \@ifundefined{pdfstringdefPreHook}{%
944   \let\pdfstringdefPreHook\@empty
945 }{}
946 \@ifundefined{pdfstringdefPostHook}{%
947   \let\pdfstringdefPostHook\@gobble
948 }{}
```

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

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

```

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

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

```

949 \def\pdfstringdefDisableCommands{%
950   \begingroup
951     \makeatletter
952     \HyPsd@DisableCommands
953 }
```

`\HyPsd@DisableCommands`

```

954 \long\def\HyPsd@DisableCommands#1{%
955   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
956   \endgroup
957 }
```

`\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`.

```
958 \def\pdfstringdefWarn#1{%
959   \expandafter\noexpand\csname<>-string#1\endcsname
960 }
```

## 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.

```
961 \begingroup
962   \catcode0=12 %
963   \def\x{\endgroup
964     \def\HyPsd@ignorespaces{%
965       \romannumeral\expandafter'\expandafter^^@%
966       \romannumeral'^^@%
967     }%
968   }%
969 \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`.

```
970 \def\HyPsd@BabelPatch{%
971   \let\HyOrg@languageshorthands\languageshorthands
972   \let\languageshorthands\HyPsd@LanguageShorthands
973 }
974 \begingroup\expandafter\expandafter\expandafter\endgroup
975 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
976   \let\HyPsd@langshort@system\@empty
977   \def\HyPsd@LanguageShorthands#1{%
978     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
979       \HyPsd@langshort@system
980     \expandafter\@gobble
981   \else
982     \expandafter\@firstofone
983   \fi
984   {%
985     \HyOrg@languageshorthands{#1}%
986   }%
987 }%
988 \else
```

```

989 \def\HyPsd@LanguageShorthands#1{%
990   \ifnum\pdf@strcmp{#1}{system}=\z@
991     \expandafter\@gobble
992   \else
993     \expandafter\@firstofone
994   \fi
995   {%
996     \HyOrg@languageshorthands{#1}%
997   }%
998 }%
999 \fi
1000 \def\Hy@temp{%
1001   \ifpackageloaded{babel}{%
1002     \@ifpackagelater{babel}{2008/03/16}{%
1003       \let\Hy@temp\@empty
1004     }{%
1005       \def\HyPsd@BabelPatch{%
1006         \let\HyOrg@languageshorthands\languageshorthands
1007       }%
1008     }%
1009   }{%
1010   }
1011   \Hy@temp
1012   \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
1013   \newif\ifHy@next

  Nothing to do for english.
1014 \ltx@ifundefined{danish@sh@'sel}{-}{%
1015   \def\HyPsd@babel@danish{%
1016     \declare@shorthand{danish}{'|'}{%
1017       \declare@shorthand{danish}{'~'}{-}%
1018     }%
1019   }
1020 \ltx@ifundefined{dutch@sh@'sel}{-}{%
1021   \def\HyPsd@babel@dutch{%
1022     \declare@shorthand{dutch}{'|'}{%
1023       \declare@shorthand{dutch}{'~'}{-}%
1024     }%
1025   }
1026 \ltx@ifundefined{finnish@sh@'sel}{-}{%
1027   \def\HyPsd@babel@finnish{%
1028     \declare@shorthand{finnish}{'|'}{%
1029     }%
1030   }
1031 \ltx@ifundefined{french@sh@:sel}{-}{%
1032   \def\HyPsd@babel@frenchb{%
1033     \def\guill@spacing{ }%
1034   }%
1035   }
1036 \ltx@ifundefined{german@sh@'sel}{-}{%
1037   \def\HyPsd@babel@german{%
1038     \declare@shorthand{german}{'f'}{f}%
1039     \declare@shorthand{german}{'|'}{%
1040       \declare@shorthand{german}{'~'}{-}%
1041     }%
1042   }
1043 \ltx@ifundefined{macedonian@sh@'sel}{-}{%

```

```

1044 \def\HyPsd@babel@macedonian{%
1045   \declare@shorthand{macedonian}{"}|{}%
1046   \declare@shorthand{macedonian}{"}~{}-%
1047 }%
1048 }
1049 \ltx@ifundefined{ngerman@sh@"@sel}{%}{%
1050 \def\HyPsd@babel@ngerman{%
1051   \declare@shorthand{ngerman}{"}|{}%
1052   \declare@shorthand{ngerman}{"}~{}-%
1053 }%
1054 }
1055 \ltx@ifundefined{portuges@sh@"@sel}{%}{%
1056 \def\HyPsd@babel@portuges{%
1057   \declare@shorthand{portuges}{"}|{}%
1058 }%
1059 }
1060 \ltx@ifundefined{russian@sh@"@sel}{%}{%
1061 \def\HyPsd@babel@russian{%
1062   \declare@shorthand{russian}{"}|{}%
1063   \declare@shorthand{russian}{"}~{}-%
1064 }%
1065 }
1066 \ltx@ifundefined{slovene@sh@"@sel}{%}{%
1067 \def\HyPsd@babel@slovene{%
1068   \declare@shorthand{slovene}{"}|{}%
1069 }%
1070 }

```

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

```

1071 \ltx@ifundefined{spanish@sh>@sel}{%}{%
1072 \def\HyPsd@babel@spanish{%
1073   \declare@shorthand{spanish}{<<}{\guillemotleft}%
1074   \declare@shorthand{spanish}{>>}{\guillemotright}%
1075   \declare@shorthand{spanish}{"}=}{-}%
1076   \declare@shorthand{spanish}{"}~}{-}%
1077   \declare@shorthand{spanish}{"}!}{\textexclamdown}%
1078   \declare@shorthand{spanish}{"}?}{\textquestiondown}%
1079 }%
1080 }
1081 \ltx@ifundefined{swedish@sh@"@sel}{%}{%
1082 \def\HyPsd@babel@swedish{%
1083   \declare@shorthand{swedish}{"}|{}%
1084   \declare@shorthand{swedish}{"}~{}-%
1085 }%
1086 }
1087 \ltx@ifundefined{ukrainian@sh@"@sel}{%}{%
1088 \def\HyPsd@babel@ukrainian{%
1089   \declare@shorthand{ukrainian}{"}|{}%
1090   \declare@shorthand{ukrainian}{"}~{}-%
1091 }%
1092 }
1093 \ltx@ifundefined{usorbian@sh@"@sel}{%}{%
1094 \def\HyPsd@babel@usorbian{%
1095   \declare@shorthand{usorbian}{"}f}{f}%
1096   \declare@shorthand{usorbian}{"}|{}%
1097 }%
1098 }
1099 \ltx@ifundefined{greek@sh@\string~@sel}{%

```

```

1100 \let\HyPsd@GreekPatch\@empty
1101 }{%
1102 \def\HyPsd@GreekPatch{%
1103   \let\greeknumeral\HyPsd@greeknumeral
1104   \let\Greeknnumeral\HyPsd@Greeknnumeral
1105 }%
1106 }
1107 \def\HyPsd@greeknumeral#1{%
1108   \HyPsd@GreekNum\@firsttwo{#1}%
1109 }
1110 \def\HyPsd@Greeknnumeral#1{%
1111   \HyPsd@GreekNum\@secondtwo{#1}%
1112 }
1113 \def\HyPsd@GreekNum#1#2{%
1114   \ifHy@unicode
1115     \ifnum#2<\@ne
1116       \@arabic{#2}%
1117     \else
1118       \ifnum#2<1000000 %
1119         \HyPsd@@GreekNum#1{#2}%
1120       \else
1121         \@arabic{#2}%
1122       \fi
1123     \fi
1124   \else
1125     \@arabic{#2}%
1126   \fi
1127 }
1128 \def\HyPsd@@GreekNum#1#2{%
1129   \ifnum#2<\@m
1130     \ifnum#2<10 %
1131       \expandafter\HyPsd@GreekNumI
1132       \expandafter\@gobble\expandafter#1\number#2%
1133     \else
1134       \ifnum#2<100 %
1135         \expandafter\HyPsd@GreekNumII
1136         \expandafter\@gobble\expandafter#1\number#2%
1137       \else
1138         \expandafter\HyPsd@GreekNumIII
1139         \expandafter\@gobble\expandafter#1\number#2%
1140       \fi
1141     \fi
1142   \ifnum#2>\z@
1143     \textnumeralsigngreek
1144   \fi
1145   \else
1146     \ifnum#2<\@M
1147       \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1148     \else
1149       \ifnum#2<100000 %
1150         \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1151       \else
1152         \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1153       \fi
1154     \fi
1155   \fi
1156 }

```

```

1157 \def\HyPsd@GreekNumI#1#2#3{%
1158   #1{%
1159     \ifnum#3>\z@
1160       \textnumeralsignlowergreek
1161       \fi
1162   }%
1163   \expandafter#2%
1164   \ifcase#3 %
1165     {}{}%
1166     \or\textalpha\textAlpha
1167     \or\textbeta\textBeta
1168     \or\textgamma\textGamma
1169     \or\textdelta\textDelta
1170     \or\textepsilon\textEpsilon
1171     \or\textstigmagreek\textStigmagreek
1172     \or\textzeta\textZeta
1173     \or\texteta\textEta
1174     \or\texttheta\textTheta
1175     \else
1176       {}{}%
1177     \fi
1178   }
1179 \def\HyPsd@GreekNumII#1#2#3#4{%
1180   #1{%
1181     \ifnum#3>\z@
1182       \textnumeralsignlowergreek
1183       \fi
1184   }%
1185   \expandafter#2%
1186   \ifcase#3 %
1187     {}{}%
1188     \or\textiota\textIota
1189     \or\textkappa\textKappa
1190     \or\textlambda\textLambda
1191     \or\textmu\textMu
1192     \or\textnu\textNu
1193     \or\textxi\textXi
1194     \or\textomicron\textOmicron
1195     \or\textpi\textPi
1196     \or\textkoppagreek\textKoppagreek
1197     \else
1198       {}{}%
1199     \fi
1200   \HyPsd@GreekNumI#1#2#4%
1201   }
1202 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1203   #1{%
1204     \ifnum#3>\z@
1205       \textnumeralsignlowergreek
1206       \fi
1207   }%
1208   \expandafter#2%
1209   \ifcase#3 %
1210     {}{}%
1211     \or\textrho\textRho
1212     \or\textsigma\textSigma
1213     \or\texttau\textTau

```

```

1214 \or\textuppsilon\textUpsilon
1215 \or\textphi\textPhi
1216 \or\textchi\textChi
1217 \or\textpsi\textPsi
1218 \or\textomega\textOmega
1219 \or\textsamplegreek\textSampigreek
1220 \else
1221   {}{}%
1222 \fi
1223 \HyPsd@GreekNumII#1#2#4#5%
1224 }
1225 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1226   \HyPsd@GreekNumI\@firstofone#1#2%
1227   \HyPsd@@@GreekNum#1{#3#4#5}%
1228 }
1229 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1230   \HyPsd@GreekNumII\@firstofone#1#2#3%
1231   \HyPsd@@@GreekNum#1{#4#5#6}%
1232 }
1233 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1234   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1235   \HyPsd@@@GreekNum#1{#5#6#7}%
1236 }

1237 \def\HyPsd@SpanishPatch{%
1238   \ltx@ifundefined{es@save@dot}{}%
1239   }{}%
1240   \let\.\es@save@dot
1241   }%
1242 }

```

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

```

1243 \def\HyPsd@RussianPatch{%
1244   \ltx@ifundefined{russian@sh@"@-@}{}%
1245   }{}%
1246   \@namedef{russian@sh@"@-@}{-}%
1247   }%
1248 }

```

### 6.5.3 CJK patch

```

1249 \RequirePackage{intcalc}[2007/09/27]

\HyPsd@CJKhook

1250 \def\HyPsd@CJKhook{%
1251   \ltx@ifpackageloaded{CJK}{}%
1252   \let\CJK@kern\relax
1253   \let\CJKkern\relax
1254   \let\CJK@CJK\relax
1255   \ifHy@CJKbookmarks
1256     \HyPsd@CJKhook@bookmarks
1257   \fi
1258   \HyPsd@CJKhook@unicode
1259   }{}%
1260 }

```



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

```

1261 \begingroup
1262 \catcode"7F=\active
1263 \toks@{%
1264 \let\CJK@ignorespaces\empty
1265 \def\CJK@char#1{\@gobbletwo}%
1266 \let\CJK@charx\@gobblefour
1267 \let\CJK@punctchar\@gobblefour
1268 \def\CJK@punctcharx#1{\@gobblefour}%
1269 \catcode"7F=\active
1270 \def^^7f#1^^7f#2^^7f{%
1271 \string #1\HyPsd@DecimalToOctal{#2}%
1272 }%
1273 % ... ?
1274 \ifHy@unicode
1275 \def\Hy@cjkpu{\80}%
1276 \else
1277 \let\Hy@cjkpu\@empty
1278 \fi
1279 \HyPsd@CJKActiveChars
1280 }%
1281 \count@=127 %
1282 \@whilenum\count@<255 \do{%
1283 \advance\count@ by 1 %
1284 \lccode'\~=\count@
1285 \lowercase{%
1286 \toks@\expandafter{\the\toks@ ~}%
1287 }%
1288 }%
1289 \toks@\expandafter{\the\toks@ !}%
1290 \xdef\HyPsd@CJKhook@bookmarks{%
1291 \the\toks@
1292 }%
1293 \endgroup

```

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

```

1294 \def\HyPsd@CJKActiveChars#1{%
1295 \ifx#1!%
1296 \let\HyPsd@CJKActiveChars\relax
1297 \else
1298 \edef#1{\noexpand\Hy@cjkpu\string#1}%
1299 \fi
1300 \HyPsd@CJKActiveChars
1301 }

```

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

```

1302 \def\HyPsd@DecimalToOctal#1{%
1303   \ifcase #1 %
1304     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1305     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1306     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1307     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1308     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1309     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1310     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1311     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1312     \or @\or A\or B\or C\or D\or E\or F\or G%
1313     \or H\or I\or J\or K\or L\or M\or N\or O%
1314     \or P\or Q\or R\or S\or T\or U\or V\or W%
1315     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1316     \or \140\or a\or b\or c\or d\or e\or f\or g%
1317     \or h\or i\or j\or k\or l\or m\or n\or o%
1318     \or p\or q\or r\or s\or t\or u\or v\or w%
1319     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1320     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1321     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1322     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1323     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1324     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1325     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1326     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1327     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1328     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1329     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1330     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1331     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1332     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1333     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1334     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1335     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1336   \fi
1337 }

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1338 \def\HyPsd@CJKhook@unicode{%
1339   \let\Unicode\HyPsd@CJK@Unicode
1340   \let\CJKnumber\HyPsd@CJKnumber
1341   \let\CJKdigits\HyPsd@CJKdigits
1342 }

```

\HyPsd@CJK@Unicode

```

1343 \def\HyPsd@CJK@Unicode#1#2{%
1344   \ifnum#1<256 %
1345     \HyPsd@DecimalToOctalFirst{#1}%
1346     \HyPsd@DecimalToOctalSecond{#2}%
1347   \else
1348     \933%
1349     \expandafter\expandafter\expandafter\HyPsd@HighA
1350     \intcalcDiv{#1}{4}!%
1351     \933%
1352     \ifcase\intcalcMod{#1}{4} %

```

```

1353     4\or 5\or 6\or 7%
1354     \fi
1355     \HyPsd@DecimalToOctalSecond{#2}%
1356     \fi
1357 }

1358 \def\HyPsd@HighA#1!{%
1359     \expandafter\expandafter\expandafter\HyPsd@HighB
1360     \IntCalcDiv#1!64!!%
1361     \expandafter\expandafter\expandafter\HyPsd@HighD
1362     \IntCalcMod#1!64!!%
1363 }
1364 \def\HyPsd@HighB#1!{%
1365     \expandafter\expandafter\expandafter\HyPsd@HighC
1366     \IntCalcDec#1!!%
1367 }
1368 \def\HyPsd@HighC#1!{%
1369     \IntCalcDiv#1!4!%
1370     \@backslashchar
1371     \IntCalcMod#1!4!%
1372 }
1373 \def\HyPsd@HighD#1!{%
1374     \ifcase\IntCalcDiv#1!8! %
1375     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1376     \fi
1377     \ifcase\IntCalcMod#1!8! %
1378     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1379     \fi
1380 }
1381 \def\HyPsd@DecimalToOctalFirst#1{%
1382     \9%
1383     \ifcase#1 %
1384         000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1385         \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1386         \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1387         \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1388         \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1389         \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1390         \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1391         \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1392         \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1393         \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1394         \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1395         \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1396         \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1397         \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1398         \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1399         \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1400         \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1401         \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1402         \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1403         \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1404         \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1405         \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1406         \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1407         \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1408         \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1409         \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%

```

```

1410 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1411 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1412 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1413 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1414 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1415 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1416 \fi
1417 }
1418 \def\HyPsd@DecimalToOctalSecond#1{%
1419 \ifcase #1 %
1420 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1421 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1422 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1423 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1424 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1425 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1426 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1427 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1428 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1429 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1430 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1431 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1432 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1433 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1434 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1435 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1436 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1437 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1438 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1439 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1440 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1441 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1442 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1443 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1444 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1445 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1446 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1447 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1448 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1449 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1450 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1451 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1452 \fi
1453 }
1454 \def\HyPsd@CJKnumber#1{%
1455 \ifnum#1<\z@
1456 \CJK@minus
1457 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1458 \else
1459 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1460 \fi
1461 }
1462 \def\HyPsd@@CJKnumber#1{%
1463 \ifcase#1 %
1464 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1465 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1466 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or

```

```

1467 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1468 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1469 \CJK@ten\CJK@nine
1470 \else
1471 \ifnum#1<10000 %
1472 \HyPsd@CJKnumberFour#1!\@empty{20}%
1473 \@empty
1474 \else
1475 \ifnum#1<100000000 %
1476 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1477 \IntCalcDiv#1!10000!%
1478 !\CJK@zero{20}%
1479 \CJK@tenthousand
1480 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1481 \IntCalcMod#1!10000!%
1482 !\CJK@zero{10}%
1483 \@empty
1484 \else
1485 \expandafter\HyPsd@CJKnumberLarge
1486 \number\IntCalcDiv#1!100000000!\expandafter!%
1487 \number\IntCalcMod#1!100000000!!%
1488 \fi
1489 \fi
1490 \fi
1491 }
1492 \def\HyPsd@CJKnumberLarge#1!#2!{%
1493 \HyPsd@CJKnumberFour#1!\@empty{20}%
1494 \CJK@hundredmillion
1495 \ifnum#2=\z@
1496 \else
1497 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1498 \IntCalcDiv#2!10000!%
1499 !\CJK@zero{10}%
1500 \CJK@tenthousand
1501 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1502 \IntCalcMod#2!10000!%
1503 !\CJK@zero{10}%
1504 \@empty
1505 \fi
1506 }
1507 \def\HyPsd@CJKnumberFour#1!#2#3{%
1508 \ifnum#1=\z@
1509 \expandafter\@gobble
1510 \else
1511 \ifnum#1<1000 %
1512 #2%
1513 \HyPsd@CJKnumberThree#1!\@empty{#3}%
1514 \else
1515 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1516 \CJK@thousand
1517 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1518 \IntCalcMod#1!1000!%
1519 !\CJK@zero{10}%
1520 \fi
1521 \fi
1522 }
1523 \def\HyPsd@CJKnumberThree#1!#2#3{%

```

```

1524 \ifnum#1=\z@
1525 \else
1526 \ifnum#1<100 %
1527 #2%
1528 \HyPsd@CJKnumberTwo#1!#{#3}%
1529 \else
1530 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1531 \CJK@hundred
1532 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1533 \IntCalcMod#1!100!%
1534 !\CJK@zero{10}%
1535 \fi
1536 \fi
1537 }
1538 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1539 \ifnum#1=\z@
1540 \else
1541 \ifnum#1<#3 %
1542 #2%
1543 \HyPsd@@CJKnumber{#1}%
1544 \else
1545 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1546 \CJK@ten
1547 \ifnum\IntCalcMod#1!10!=\z@
1548 \else
1549 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1550 \fi
1551 \fi
1552 \fi
1553 }
1554 \def\HyPsd@CJKdigits#1{%
1555 \ifx*#1\relax
1556 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1557 \else
1558 \HyPsd@@CJKdigits\CJK@null{#1}%
1559 \fi
1560 }
1561 \def\HyPsd@@CJKdigits#1#2{%
1562 \ifx\#2\%
1563 \else
1564 \HyPsd@@@CJKdigits#1#2\@nil
1565 \fi
1566 }%
1567 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1568 \HyPsd@CJKdigit#1{#2}%
1569 \ifx\#3\%
1570 \expandafter\@gobble
1571 \else
1572 \expandafter\@firstofone
1573 \fi
1574 {%
1575 \HyPsd@@@CJKdigits#1#3\@nil
1576 }%
1577 }
1578 \def\HyPsd@CJKdigit#1#2{%
1579 \ifcase#2 %
1580 #1\or

```

```

1581 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1582 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1583 \fi
1584 }

```

### 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 L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> versions [1998/06/01] and [1998/12/01]. I expect that versions below [1995/12/01] don't work.

To understand the patch easier, the original code of `\@current@cmd` and `\@changed@cmd` follows (L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> release [1998/12/01]). In the normal case `\pdfstringdef` is executed in a context where `\protect` has the meaning of `\@typeset-protect` (`=\relax`).

```

\def\@current@cmd#1{%
  \ifx\protect\@typeset@protect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changed@cmd#1#2{%
  \ifx\protect\@typeset@protect
    \@inmathwarn#1%
    \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
      \expandafter\ifx\csname ?\string#1\endcsname\relax
        \expandafter\def\csname ?\string#1\endcsname{%
          \TextSymbolUnavailable#1%
        }%
      \fi
      \global\expandafter\let
        \csname\cf@encoding\string#1\expandafter\endcsname
        \csname ?\string#1\endcsname
    \fi
    \csname\cf@encoding\string#1%
      \expandafter\endcsname
  \else
    \noexpand#1%
  \fi}
\gdef\TextSymbolUnavailable#1{%
  \@latex@error{%
    Command \protect#1 unavailable in encoding \cf@encoding%
  }\@eha}
\def\@inmathwarn#1{%
  \ifmmode
    \@latex@warning{Command \protect#1 invalid in math mode}%
  \fi}

1585 \def\HyPsd@inmathwarn#1#2{%
1586   \ifx#2\expandafter
1587     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1588       \HyPsd@GLYPHERR
1589       \expandafter\@gobble\string#1%
1590     >%
1591     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1592   \else

```

```

1593 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1594 \fi
1595 \else
1596 \expandafter#2%
1597 \fi
1598 }
1599 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1600 \def\HyPsd@EndWithElse#1\else{\else}

```

\HyPsd@add@accent

```

1601 \def\HyPsd@add@accent#1#2{%
1602 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1603 #2%
1604 }%

```

### 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 caught by undelimited arguments.
- And they work in number, dimen, and skip assignments.

These properties are used in \HyPsd@CheckCatcodes.

```

1605 \def\HyPsd@LetUnexpandableSpace#1{%
1606 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1607 }

```

\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.

```

1608 \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.

```

1609 \edef\HyPsd@XSPACE{\string#\string X}
1610 \edef\HyPsd@ITALCORR{\string#\string I}
1611 \edef\HyPsd@GLYPHERR{\string#\string G}

```

### 6.5.9 \hspace fix

\HyPsd@hspace

```

1612 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*END}

```

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

```

1613 \def\HyPsd@@hspace#1*#2END{%
1614 \ifx\#2\%
1615 \HyPsd@hspacetest{#1}%
1616 \else
1617 \expandafter\HyPsd@hspacetest
1618 \fi
1619 }

```



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

```
1620 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

#### 6.5.10 Fix for AMS classes

```
1621 \ltx@ifundefined{tocsection}{%
1622   \let\HyPsd@AMSclassfix\relax
1623 }{%
1624   \def\HyPsd@AMSclassfix{%
1625     \let\tocpart\HyPsd@tocsection
1626     \let\tocchapter\HyPsd@tocsection
1627     \let\tocappendix\HyPsd@tocsection
1628     \let\tocsection\HyPsd@tocsection
1629     \let\tocsubsection\HyPsd@tocsection
1630     \let\tocsubsubsection\HyPsd@tocsection
1631     \let\tocparagraph\HyPsd@tocsection
1632   }%
1633   \def\HyPsd@tocsection#1#2#3{%
1634     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1635     #3%
1636   }%
1637 }
```

#### 6.5.11 Reference commands

`\HyPsd@href`

```
1638 \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.

```
1639 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1640 \def\HyPsd@@ref#1*#2\END{%
1641   \ifx\#2\%
1642     \HyPsd@@@ref{#1}%
1643   \else
1644     \expandafter\HyPsd@@@ref
1645   \fi
1646 }
```

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

```
1647 \def\HyPsd@@@ref#1{%
1648   \expandafter\ifx\csname r@#1\endcsname\relax
1649     ??%
1650   \else
1651     \expandafter\expandafter\expandafter
1652     \@car\csname r@#1\endcsname\@nil
1653   \fi
1654 }
```

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

```
1655 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```

1656 \def\HyPsd@@pageref#1*#2\END{%
1657   \ifx\#2\%
1658     \HyPsd@@@pageref{#1}%
1659   \else
1660     \expandafter\HyPsd@@@pageref
1661   \fi
1662 }
```

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

```

1663 \def\HyPsd@@@pageref#1{%
1664   \expandafter\ifx\csname r@#1\endcsname\relax
1665     ??%
1666   \else
1667     \expandafter\expandafter\expandafter\expandafter
1668     \expandafter\expandafter\expandafter\@car
1669     \expandafter\expandafter\expandafter\@gobble
1670     \csname r@#1\endcsname{}\@nil
1671   \fi
1672 }
```

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

```

1673 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```

1674 \def\HyPsd@@nameref#1*#2\END{%
1675   \ifx\#2\%
1676     \HyPsd@@@nameref{#1}%
1677   \else
1678     \expandafter\HyPsd@@@nameref
1679   \fi
1680 }
```

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

```

1681 \def\HyPsd@@@nameref#1{%
1682   \expandafter\ifx\csname r@#1\endcsname\relax
1683     ??%
1684   \else
1685     \expandafter\expandafter\expandafter\expandafter
1686     \expandafter\expandafter\expandafter\@car
1687     \expandafter\expandafter\expandafter\@gobbletwo
1688     \csname r@#1\endcsname{}\@nil
1689   \fi
1690 }
```

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

```

1691 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```

1692 \def\HyPsd@@autoref#1*#2\END{%
1693   \ifx\#2\%
1694     \HyPsd@@@autoref{#1}%
1695   \else
1696     \expandafter\HyPsd@@@autoref
1697   \fi
1698 }
```

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

```

1699 \def\HyPsd@@@autoref#1{%
1700   \expandafter\ifx\csname r@#1\endcsname\relax
1701     ??%
1702   \else
1703     \expandafter\expandafter\expandafter\HyPsd@autorefname
1704       \csname r@#1\endcsname\relax\@nil
1705     \expandafter\expandafter\expandafter
1706       \@car\csname r@#1\endcsname\@nil
1707   \fi
1708 }
```

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

```

1709 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1710   \ifx\#4\%
1711   \else
1712     \HyPsd@@@autorefname#4.\@nil
1713   \fi
1714 }
```

`\HyPsd@@@autorefname`

```

1715 \def\HyPsd@@@autorefname#1.#2\@nil{%
1716   \ltx@ifundefined{#1autorefname}{%
1717     \ltx@ifundefined{#1name}{%
1718       }{%
1719         \csname#1name\endcsname\space
1720       }%
1721     }{%
1722       \csname#1autorefname\endcsname\space
1723     }%
1724 }
```

### 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 causes 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 don'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 `\HyPsdLetCommand` is that the first one also cancels this arguments, the parameter and definition text. The right side of the `\let` commands cannot be canceled with an undelimited parameter because of a possible space token after `\futurelet`.

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

```
\HyPsd@DefCommand
\HyPsd@LetCommand 1725 \begingroup
1726 \def\x#1#2{%
1727 \endgroup
1728 \let#1\def
1729 \def\HyPsd@DefCommand##1##2###{%
1730 #1%
1731 \expandafter\noexpand
1732 \csname\expandafter\@gobble\string##1\@empty\endcsname
1733 \@gobble
1734 }%
1735 \let#2\let
1736 \def\HyPsd@@LetCommand##1{%
1737 \expandafter\ifx\csname##1\expandafter\endcsname
1738 \csname iftrue\endcsname
1739 \pdfstringdefWarn\let
1740 \expandafter\@gobble
1741 \else
1742 \expandafter\ifx\csname##1\expandafter\endcsname
1743 \csname iffalse\endcsname
1744 \pdfstringdefWarn\let
1745 \expandafter\expandafter\expandafter\@gobble
1746 \else
1747 #2%
1748 \expandafter\noexpand
1749 \csname##1\expandafter\expandafter\expandafter\endcsname
1750 \fi
1751 \fi
1752 }%
1753 }%
1754 \expandafter\x\csname <def>-command\expandafter\endcsname
1755 \csname <let>-command\endcsname
1756 \def\HyPsd@LetCommand#1{%
1757 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1758 \expandafter\expandafter\expandafter{%
1759 \expandafter\@gobble\string#1\@empty
1760 }%
1761 }
```

### 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).

```
1762 \def\HyPsd@ifnextchar#1{%
1763   \pdfstringdefWarn#1%
1764   \expandafter\@gobbletwo\@gobble
1765 }
```

#### 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`.

```
1766 \def\HyPsd@protected@testopt#1{%
1767   \pdfstringdefWarn#1%
1768   \@gobbletwo
1769 }
```

## 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:

```
1770 \def\HyPsd@Warning#1{%
1771   \begingroup
1772   \let\space\ltx@space
1773   \Hy@Warning{#1}%
1774   \endgroup
1775 }
```

### 6.6.2 Protecting spaces

```
1776 \RequirePackage{etexcmds}[2007/09/09]
1777 \ifetex@unexpanded
1778   \expandafter\@secondoftwo
1779 \else
1780   \expandafter\@firstoftwo
1781 \fi
1782 {%
```

`\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`.

```
1783   \def\HyPsd@ProtectSpaces#1{%
1784     \iftrue
1785       \expandafter\HyPsd@@ProtectSpacesFi
1786       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1787     \fi
1788   }%
```

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

```

1789 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1790   \fi
1791   \ifx\scrollmode#2\scrollmode
1792     \HyPsd@RemoveMask#1\HyPsd@End#3%
1793   \else
1794     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1795     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1796   \fi
1797 }%

```

### 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.

```

1798 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1799   \toks@\expandafter{#1}%
1800   \xdef#2{\the\toks@}%
1801 }%

1802 }{%
1803   \let\HyPsd@fi\fi
1804   \def\HyPsd@ProtectSpaces#1{%
1805     \xdef#1{%
1806       \iftrue
1807         \expandafter\HyPsd@@ProtectSpacesFi
1808         \expandafter|\expandafter\@empty#1| %
1809       \HyPsd@fi
1810     }%
1811     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1812   }%
1813   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1814     \fi
1815     \etex@unexpanded{#1}%
1816     \ifx\scrollmode#2\scrollmode
1817     \else
1818       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1819     \HyPsd@fi
1820   }%
1821   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1822     \xdef#2{\etex@unexpanded\expandafter{#1}}%
1823   }%
1824 }

```

### 6.6.3 Remove grouping braces

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

```

1825 \def\HyPsd@RemoveBraces#1{%
1826   \ifx\scrollmode#1\scrollmode
1827   \else
1828     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1829   \fi
1830 }

```

`\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 `\ltx@ReturnAfterFi`.

```

1831 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1832   \fi
1833   \def\Hy@temp@A{#1#2}%
1834   \def\Hy@temp@B{#3}%
1835   \ifx\Hy@temp@A\Hy@temp@B
1836     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1837       \HyPsd@String#1%
1838     }%
1839     \ifx\scrollmode#2\scrollmode
1840     \else
1841       \Hy@ReturnAfterFiFiEnd{%
1842         \HyPsd@RemoveBraces{#2}%
1843       }%
1844     \fi
1845   \else
1846     \def\Hy@temp@A{#1}%
1847     \HyPsd@AppendItalcorr\HyPsd@String
1848     \ifx\Hy@temp@A\@empty
1849       \Hy@ReturnAfterElseFiFiEnd{%
1850         \HyPsd@RemoveBraces{#2}%
1851       }%
1852     \else
1853       \HyPsd@ProtectSpaces\Hy@temp@A
1854       \HyPsd@AppendItalcorr\Hy@temp@A
1855       \Hy@ReturnAfterFiFiEnd{%
1856         \expandafter\HyPsd@RemoveBraces\expandafter
1857           {\Hy@temp@A#2}%
1858       }%
1859     \fi
1860   \fi
1861   \Hy@ReturnEnd
1862 }
```

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

```

1863 \def\HyPsd@AppendItalcorr#1{%
1864   \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1%
1865 }
1866 \def\HyPsd@@AppendItalcorr#1#2{%
1867   \expandafter\def\expandafter#2\expandafter{#2#1}%
1868 }
```

#### 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`).

```

1869 \def\HyPsd@CheckCatcodes#1#2\HyPsd@end{%
1870   \global\let\HyPsd@Rest\relax
1871   \ifcat\relax\noexpand#1\relax
1872     \ifx#1\protect
1873       \else
1874         \ifx#1\penalty
1875           \setbox\z@=\hbox{%
1876             \afterassignment\HyPsd@AfterCountRemove
1877             \count@=#2\HyPsd@end
1878           }%
1879         \else
1880         \ifx#1\kern
1881           \setbox\z@=\hbox{%
1882             \afterassignment\HyPsd@AfterDimenRemove
1883             \dimen@=#2\HyPsd@end
1884           }%
1885         \else
1886         \ifx#1\hskip
1887           \setbox\z@=\hbox{%
1888             \afterassignment\HyPsd@AfterSkipRemove
1889             \skip@=#2\HyPsd@end
1890           }%
1891         \else
1892           \HyPsd@CatcodeWarning{#1}%
1893         \fi
1894       \fi
1895     \fi
1896   \fi
1897 \else
1898   \ifcat#1A% letter
1899     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1900       \HyPsd@String#1%
1901     }%
1902   \else
1903     \ifcat#1 % SPACE
1904       \expandafter\def\expandafter\HyPsd@String\expandafter{%
1905         \HyPsd@String\HyPsd@SPACEOPTI
1906       }%
1907     \else
1908       \ifcat$#1%
1909         \HyPsd@CatcodeWarning{math shift}%
1910       \else
1911         \ifcat&#1%
1912           \HyPsd@CatcodeWarning{alignment tab}%
1913         \else
1914           \ifcat^#1%
1915             \HyPsd@CatcodeWarning{superscript}%
1916           \else
1917             \ifcat_#1%
1918               \HyPsd@CatcodeWarning{subscript}%

```



```

1919         \else
1920         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1921         \HyPsd@String#1%
1922         }%
1923     \fi
1924 \fi
1925 \fi
1926 \fi
1927 \fi
1928 \fi
1929 \fi
1930 \ifx\HyPsd@Rest\relax
1931 \ifx\scrollmode#2\scrollmode
1932 \else
1933 \Hy@ReturnAfterFiFiEnd{%
1934 \HyPsd@CheckCatcodes#2\HyPsd@End
1935 }%
1936 \fi
1937 \else
1938 \ifx\HyPsd@Rest\@empty
1939 \else
1940 \Hy@ReturnAfterFiFiEnd{%
1941 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1942 }%
1943 \fi
1944 \fi
1945 \Hy@ReturnEnd
1946 }

```

#### Remove counts, dimens, skips.

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

```

1947 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1948 \gdef\HyPsd@Rest{#1}%
1949 }

```

**\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.

```

1950 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1951 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1952 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1953 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1954 \else
1955 \ifdim\dimen@=\z@
1956 \else
1957 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1958 \fi
1959 \gdef\HyPsd@Rest{#1}%
1960 \fi
1961 }

```

**\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).

```

1962 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1963 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %

```

```

1964 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1965 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1966 \else
1967 \ifdim\skip@=\z@
1968 \else
1969 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1970 \fi
1971 \gdef\HyPsd@Rest{#1}%
1972 \fi
1973 }

```

### Catcode warnings.

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

```

1974 \def\HyPsd@CatcodeWarning#1{%
1975 \HyPsd@Warning{%
1976 Token not allowed in a PDF string (%)
1977 \ifHy@unicode
1978 Unicode%
1979 \else
1980 PDFDocEncoding%
1981 \fi
1982 }:%
1983 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1984 }%
1985 }
1986 \begingroup
1987 \catcode'\|=0 %
1988 \catcode'\|=12 %
1989 \gdef\HyPsd@RemoveCmdPrefix#1{%
1990 |expandafter|HyPsd@@RemoveCmdPrefix
1991 |string#1|@empty\<>-|@empty|@empty
1992 }%
1993 \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1994 \endgroup

```

\HyPsd@RemoveSpaceWarning

```

1995 \def\HyPsd@RemoveSpaceWarning#1{%
1996 \HyPsd@Warning{%
1997 Token not allowed in a PDF string (%)
1998 \ifHy@unicode
1999 Unicode%
2000 \else
2001 PDFDocEncoding%
2002 \fi
2003 }:%
2004 \MessageBreak #1\MessageBreak
2005 removed%
2006 }%
2007 }

```

\HyPsd@ReplaceSpaceWarning

```

2008 \def\HyPsd@ReplaceSpaceWarning#1{%
2009 \HyPsd@Warning{%
2010 Token not allowed in a PDF string (%)
2011 \ifHy@unicode
2012 Unicode%

```

```

2013 \else
2014     PDFDocEncoding%
2015 \fi
2016 ):%
2017 \MessageBreak #1\MessageBreak
2018 replaced by space%
2019 }%
2020 }

```

### 6.6.5 Check for wrong glyphs

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

```

2021 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2022 \expandafter\def\expandafter\HyPsd@String\expandafter{%
2023 \HyPsd@String#1%
2024 }%
2025 \ifx\#2\%
2026 \else
2027 \ltx@ReturnAfterFi{%
2028 \HyPsd@GlyphProcessWarning#2\@empty
2029 }%
2030 \fi
2031 }
2032 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2033 \HyPsd@@@GlyphProcessWarning#1++>%
2034 \HyPsd@GlyphProcess#2\@empty
2035 }
2036 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
2037 \ifx\#2\%
2038 \HyPsd@Warning{%
2039 Glyph not defined in %
2040 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2041 removing '@backslashchar#1'%
2042 }%
2043 \else
2044 \HyPsd@Warning{%
2045 Composite letter '@backslashchar#1+#2'\MessageBreak
2046 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2047 \MessageBreak
2048 removing '@backslashchar#1'%
2049 }%
2050 \fi
2051 }

```

### 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`.

```

2052 \def\HyPsd@spaceopti#1{ % first space
2053 \ifx\HyPsd@spaceopti#1%
2054 \040%
2055 \else
2056 #1%

```

```

2057 \fi
2058 }%

```

### 6.6.6 Replacing tokens

`\HyPsd@Subst` To save tokens `\HyPsd@StringSubst` is a 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.

```

2059 \def\HyPsd@Subst#1#2#3{%
2060 \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
2061 \fi
2062 ##1%
2063 \ifx\scrollmode##2\scrollmode
2064 \else
2065 #2%
2066 \HyPsd@@ReplaceFi##2\END
2067 \fi
2068 }%
2069 \xdef#3{%
2070 \iftrue
2071 \expandafter\HyPsd@@ReplaceFi#3#1\END
2072 \fi
2073 }%
2074 }

```

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

```

2075 \def\HyPsd@StringSubst#1{%
2076 \expandafter\HyPsd@Subst\expandafter{\string#1}%
2077 }

```

`\HyPsd@EscapeTeX`

```

2078 \begingroup
2079 \lccode'\!='\%%
2080 \lccode'\|='\%%
2081 \lccode'\(='\{%
2082 \lccode'\)='\}%
2083 \lccode'0=\ltx@zero
2084 \lccode'1=\ltx@zero
2085 \lccode'3=\ltx@zero
2086 \lccode'4=\ltx@zero
2087 \lccode'5=\ltx@zero
2088 \lccode'7=\ltx@zero
2089 \lowercase{\endgroup
2090 \def\HyPsd@EscapeTeX#1{%
2091 \HyPsd@Subst!{|045}#1%
2092 \HyPsd@Subst({|173}#1%
2093 \HyPsd@Subst){|175}#1%
2094 }%
2095 }

```

### 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.

```

2096 \def\HyPsd@doxspace#1{%
2097   \ifx#1\relax\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         \ifx#1/\else
2105         \ifx#1-\else
2106         \ifx#1'\else
2107           \HyPsd@SPACEOPTI
2108         \fi
2109       \fi
2110     \fi
2111   \fi
2112   \fi
2113   \fi
2114   \fi
2115   \fi
2116   \fi
2117   \fi
2118   #1%
2119 }%
```

### 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.

```

2120 \begingroup
2121   \catcode'\|=0 %
2122   \catcode'\|=12 %
```

`\HyPsd@ConvertToUnicode`

```

2123 |gdef|HyPsd@ConvertToUnicode#1{%
2124   |xdef#1{%
2125     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2126   }%
2127   |ifx#1|@empty
2128   |else
2129     |xdef#1{%
2130       \376\377%
2131       #1%
2132     }%
2133   |fi
2134 }%
```

`\HyPsd@DoConvert`

```

2135 |gdef|HyPsd@DoConvert#1{%
2136   |ifx#1|@empty
```

```

2137 |else
2138 |ltx@ReturnAfterFi{%
2139 |ifx#1\%%
2140 \%%
2141 |expandafter|HyPsd@DoEscape
2142 |else
2143 |HyPsd@Char{#1}%
2144 |expandafter|HyPsd@DoConvert
2145 |fi
2146 }%
2147 |fi
2148 }%

```

\HyPsd@DoEscape

```

2149 |gdef|HyPsd@DoEscape#1{%
2150 |ifx#19%
2151 |expandafter|HyPsd@GetTwoBytes
2152 |else
2153 |ltx@ReturnAfterFi{%
2154 |ifx#18%
2155 00%
2156 |expandafter|HyPsd@GetTwoBytes
2157 |else
2158 #1%
2159 |expandafter|HyPsd@GetOneByte
2160 |fi
2161 }%
2162 |fi
2163 }%

```

\HyPsd@GetTwoBytes

```

2164 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2165 #1\#2#3#4%
2166 |HyPsd@DoConvert
2167 }%

```

\HyPsd@GetOneByte

```

2168 |gdef|HyPsd@GetOneByte#1#2{%
2169 #1#2%
2170 |HyPsd@DoConvert
2171 }%
2172 |endgroup

```

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

```

2173 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2174 \xdef#4{#4#1#2}%
2175 \HyPsd@@ConvertToUnicode#3\END#4%
2176 }

```

\HyPsd@Char

```

2177 \begingroup
2178 \catcode0=9 %
2179 \catcode'\^=7 %
2180 \catcode'\^^=12 %
2181 \def\x{~~~~0000}%
2182 \expandafter\endgroup

```

```

2183 \ifx\x\@empty
2184 \def\HyPsd@Char#1{%
2185   \ifnum'#1<128 %
2186     \@backslashchar 000#1%
2187   \else
2188     \ifnum'#1<65536 %
2189       \expandafter\HyPsd@CharTwoByte\number'#1!%
2190     \else
2191       \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2192       \intcalcSub{'#1}{65536}!%
2193     \fi
2194   \fi
2195 }%
2196 \def\HyPsd@CharTwoByte#1!{%
2197   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2198   \IntCalcDiv#1!256!!%
2199   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2200   \IntCalcMod#1!256!!%
2201 }%
2202 \def\HyPsd@CharOctByte#1!{%
2203   \@backslashchar
2204   \IntCalcDiv#1!64!%
2205   \intcalcDiv{\IntCalcMod#1!64!}{8}%
2206   \IntCalcMod#1!8!%
2207 }%
2208 \def\HyPsd@CharSurrogate#1!{%
2209   \@backslashchar 33%
2210   \IntCalcDiv#1!262144!%
2211   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2212   \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2213   \@backslashchar 33%
2214   \expandafter\expandafter\expandafter\IntCalcAdd
2215   \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2216   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2217   \IntCalcMod#1!256!!%
2218 }%
2219 \else
2220 \def\HyPsd@Char#1{%
2221   \@backslashchar 000#1%
2222 }%
2223 \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`

```

2224 \begingroup\expandafter\expandafter\expandafter\endgroup
2225 \expandafter\ifx\csname numexpr\endcsname\relax

```

```

2226 \let\HyPsd@UTFviii\relax
2227 \else
2228 \begingroup
2229 \lccode'\~='^f4\relax
2230 \lowercase{\endgroup
2231 \def\HyPsd@UTFviii{%
2232 \let\UTFviii@two@octets\HyPsd@UTFviii@two
2233 \let\UTFviii@three@octets\HyPsd@UTFviii@three
2234 \let\UTFviii@four@octets\HyPsd@UTFviii@four
2235 \ifx~\HyPsd@UTFviii@ccxliv@undef
2236 \let~\HyPsd@UTFviii@ccxliv@def
2237 \fi
2238 \let\unichar\HyPsd@unichar
2239 }%
2240 }%
2241 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2242 \edef\HyPsd@UTFviii@ccxliv@def{%
2243 \noexpand\UTFviii@four@octets\string ^f4%
2244 }%

```

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.

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

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

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

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

$$(5)$$

```

2245 \def\HyPsd@UTFviii@two#1#2{%
2246 \expandafter\HyPsd@UTFviii@@two
2247 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2248 \number'#1\expandafter| %
2249 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2250 \number'#2 \@nil
2251 }%
2252 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2253 \expandafter\8%
2254 \number\numexpr #1-48\expandafter\relax
2255 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2256 \number\numexpr #3-8*%
2257 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2258 \number\numexpr #4-8*#3\relax
2259 }%

```

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

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

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

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

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

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

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

$$(12)$$



```

2260 \def\HyPsd@UTFviii@three#1#2#3{%
2261 \expandafter\HyPsd@UTFviii@@three
2262 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
2263 \number'#1\expandafter|
2264 \number\ifnum\dimexpr'#2-128\relax <32 0\else 1\fi\expandafter|
2265 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
2266 \number'#2\expandafter|
2267 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
2268 \number'#3 \@nil
2269 }%
2270 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2271 \expandafter\%
2272 \number\dimexpr #1-56\expandafter\relax
2273 \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
2274 \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2275 \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
2276 \number\dimexpr #6-16\expandafter\relax
2277 \number\dimexpr #7-8*#6\relax
2278 }%

```

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

```

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

```

```

2279 \def\HyPsd@UTFviii@four#1#2{%
2280 \expandafter\HyPsd@@UTFviii@four\number
2281 \dimexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2282 \expandafter|\number
2283 \dimexpr'#2-16*\dimexpr.0625\dimexpr'#2sp|
2284 }%
2285 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2286 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2287 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2288 \ifodd#2 %
2289 \number\dimexpr(#2-1)/2\relax
2290 \else
2291 \number\dimexpr#2/2\relax
2292 \fi
2293 \number\dimexpr\ifodd#2 4+\fi
2294 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2295 \933%
2296 \expandafter\HyPsd@@@UTFviii@four\number
2297 \dimexpr'#3-16*\dimexpr.0625\dimexpr'#3sp|
2298 }%
2299 \def\HyPsd@@@UTFviii@four#1|#2{%
2300 \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2301 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2302 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2303 \number\dimexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2304 }%

```

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

```

2305 \def\HyPsd@unichar#1{%
2306 \ifHy@unicode

```

```

2307 \ifnum#1>"10FFFF %
2308 \HyPsd@UnicodeReplacementCharacter % illegal
2309 \else
2310 \ifnum#1>"FFFF %

```

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

```

2311 \expandafter\HyPsd@unichar\expandafter{%
2312 \number\numexpr 55296+%
2313 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2314 \relax\relax\relax
2315 }%

```

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

```

2316 \expandafter\HyPsd@unichar\expandafter{%
2317 \number\numexpr#1-9216%
2318 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2319 \relax\relax\relax
2320 }%
2321 \else
2322 \ifnum#1>"7FF %
2323 \9%
2324 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2325 \number
2326 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2327 }%
2328 \else
2329 \8%
2330 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2331 \fi
2332 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2333 \number
2334 \numexpr#1-256*\number
2335 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2336 }%
2337 \fi
2338 \fi
2339 \else
2340 .% unsupported (Unicode -> PDF Doc Encoding)
2341 \fi
2342 }%
2343 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2344 \def\HyPsd@unichar@first@byte#1{%
2345 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2346 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2347 \number
2348 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2349 \relax\relax\relax
2350 }%
2351 }%
2352 \def\HyPsd@unichar@second@byte#1{%
2353 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2354 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2355 \number
2356 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2357 \relax\relax\relax
2358 }%
2359 }%
2360 \def\HyPsd@unichar@octtwo#1{%

```

```

2361 \number\dimexpr.125\dimexpr#1sp\relax\relax
2362 \number\dimexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2363 \relax\relax\relax
2364 }%
2365 \fi

```

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

```

2366 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2367 \ifx\@gobble#1%
2368 \else
2369 [Please insert \textbackslash PrerenderUnicode%
2370 \textbraceleft#1\textbraceright\space
2371 into preamble]%
2372 \fi
2373 }%

```

### 6.6.10 Support for die faces (ifsym et. al.)

`\HyPsd@DieFace` Die faces are provided by

Package	Macro
ifsym	<code>\Cube</code>
epsdice	<code>\epsdice</code>
hhcount	<code>\fcdice</code>

`\Cube` and `\epsdice` restrict the range to the numbers one to six. `\fcdice` generates for larger numbers several dice faces with the sum matching the number. The implementation for the PDF strings follows `\fcdice`.

```

2374 \def\HyPsd@DieFace#1{%
2375 \ifHy@unicode
2376 \ifnum#1<1 %
2377 \HyPsd@UnicodeReplacementCharacter
2378 \else
2379 \ifnum#1>6 %
2380 \9046\205%
2381 \expandafter\expandafter\expandafter
2382 \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2383 \else
2384 \9046\20\intcalcDec{#1}%
2385 \fi
2386 \fi
2387 \else
2388 .% Die faces are not part of PDFDocEncoding
2389 \fi
2390 }

```

`\HyPsd@DieFaceLarge`

```

2391 \def\HyPsd@DieFaceLarge#1!{%
2392 \ifnum#1>6 %
2393 \expandafter\ltx@firstoftwo
2394 \else
2395 \expandafter\ltx@secondoftwo
2396 \fi
2397 {%
2398 \9046\205%
2399 \expandafter\expandafter\expandafter

```

```

2400 \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2401 }{%
2402 \9046\20\IntCalcDec#1!%
2403 }%
2404 }

```

#### 6.6.11 Support for moon phases of package china2e

```

2405 \def\HyPsd@MoonPha#1{%
2406 \ifcase\intcalcNum{#1} %
2407 \HyPsd@UnicodeReplacementCharacter
2408 \or % 1
2409 % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2410 \9330\074\9337\032%
2411 \or % 2
2412 \HyPsd@UnicodeReplacementCharacter
2413 \or % 3
2414 % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2415 \9330\074\9337\035%
2416 \or % 4
2417 % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2418 \9330\074\9337\034%
2419 \else
2420 \HyPsd@UnicodeReplacementCharacter
2421 \fi
2422 }
2423 %* \HyPsd@MoonPha -> \MoonPha

```

#### 6.6.12 Support for package pifont

\HyPsd@ding

```

2424 \def\HyPsd@ding#1{%
2425 \ifHy@unicode
2426 \ifnum#1<32 %
2427 \HyPsd@UnicodeReplacementCharacter
2428 \else
2429 \ifnum#1>254 %
2430 \HyPsd@UnicodeReplacementCharacter
2431 \else
2432 \ifnum#1<127 %
2433 \expandafter\expandafter\expandafter
2434 \HyPsd@@ding\intcalcNum{#1}!%
2435 \else
2436 \ifnum#1>160 %
2437 \expandafter\expandafter\expandafter
2438 \HyPsd@@ding\intcalcNum{#1}!%
2439 \else
2440 \HyPsd@UnicodeReplacementCharacter
2441 \fi
2442 \fi
2443 \fi
2444 \fi
2445 \else
2446 .% Dingbats are not part of PDFDocEncoding
2447 \fi
2448 }

```

\HyPsd@@ding

```

2449 \def\HyPsd@@ding#1!{%
2450   \ltx@ifundefined{HyPsd@ding@#1}{%
2451     \ifnum#1<127 %
2452       \9047%
2453       \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2454     \else
2455       \ifnum#1<168 %
2456         \9047\14\IntCalcSub#1!160!%
2457       \else
2458         \ifnum#1>181 %
2459           \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2460         \else
2461           % 172..181 -> U+2460..U+2469
2462           \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2463         \fi
2464       \fi
2465     \fi
2466   }{%
2467     \csname HyPsd@ding@#1\endcsname
2468   }%
2469 }

2470 \@namedef{HyPsd@ding@32}{\space}
2471 % U+260E BLACK TELEPHONE
2472 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2473 % U+261B BLACK RIGHT POINTING INDEX
2474 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2475 % U+261E WHITE RIGHT POINTING INDEX
2476 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2477 % U+2605 BLACK STAR
2478 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2479 % U+25CF BLACK CIRCLE
2480 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2481 % U+25A0 BLACK SQUARE
2482 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2483 % U+25B2 BLACK UP-POINTING TRIANGLE
2484 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2485 % U+25BC BLACK DOWN-POINTING TRIANGLE
2486 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2487 % U+25C6 BLACK DIAMOND
2488 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2489 % U+25D7 RIGHT HALF BLACK CIRCLE
2490 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2491 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2492 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2493 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2494 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2495 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2496 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2497 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2498 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

## 7 Support of other packages

### 7.1 Class memoir

```

2499 \@ifclassloaded{memoir}{%

```

```

2500 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}}%
2501 }{}

```

## 7.2 Package subfigure

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

```

2502 \ifpackageloaded{subfigure}{%
2503 \ltx@ifundefined{sub@label}{%
2504 \Hy@hypertexnamesfalse
2505 }{%
2506 \renewcommand*{\sub@label}[1]{%
2507 \@bsphack
2508 \subfig@oldlabel{#1}%
2509 \if@filesw
2510 \begingroup
2511 \edef\@currentlabstr{%
2512 \expandafter\strip@prefix\meaning\@currentlabelname
2513 }%
2514 \protected@write\@auxout{}{%
2515 \string\newlabel{sub@#1}{%
2516 {\@nameuse{@@thesub}\@capytype}}%
2517 {\thepage}%
2518 {%
2519 \expandafter\strip@period\@currentlabstr
2520 \relax.\relax\@@@%
2521 }%
2522 {\@currentHref}%
2523 }%
2524 }%
2525 }%
2526 \endgroup
2527 \fi
2528 \@esphack
2529 }%
2530 \@ifpackagelater{subfigure}{2002/03/26}{%
2531 \providecommand*\toclevel@subfigure{1}%
2532 \providecommand*\toclevel@subtable{1}%
2533 }%
2534 }%
2535 }{}

```

## 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:

```

2536 \ltx@ifundefined{XR@addURL}{%
2537 }{}

```

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.

```

2538 \def\xr@addURL#1{\xr@@dURL#1{}{}{}{}\\}%
2539 \def\xr@@dURL#1#2#3#4#5\\{%
2540 {#1}{#2}%
2541 \if!#4!%
2542 \else
2543 {#3}{#4}{\xr@URL}%
2544 \fi
2545 }%

```

```

2546 }
2547 \def\Hy@true{true}
2548 \def\Hy@false{false}

    Providing dummy definitions.
2549 \let\literalps@out\@gobble
2550 \newcommand\pdfbookmark[3][]{ }
2551 \def\Acrobatmenu#1#2{\leavevmode#2}
2552 \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

```

2553 \let\HyperRaiseLinkHook\@empty
2554 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2555 \newcount\Hy@SavedSpaceFactor
2556 \def\Hy@SaveSpaceFactor{%
2557   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2558 }
2559 \def\Hy@RestoreSpaceFactor{%
2560   \relax
2561   \ifhmode
2562     \ifnum\Hy@SavedSpaceFactor>\z@
2563       \spacefactor=\Hy@SavedSpaceFactor
2564     \fi
2565   \fi
2566 }
2567 \def\Hy@SaveSavedSpaceFactor{%
2568   \edef\Hy@RestoreSavedSpaceFactor{%
2569     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2570   }%
2571 }
2572 \def\Hy@raisedlink#1{%
2573   \ifvmode
2574     #1%
2575   \else
2576     \Hy@SaveSpaceFactor
2577     \penalty\@M
2578     \smash{%
2579       \begingroup
2580         \let\HyperRaiseLinkLength\@tempdima
2581         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2582         \HyperRaiseLinkHook

```

```

2583 \expandafter\endgroup
2584 \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2585   \Hy@RestoreSpaceFactor
2586   #1%
2587   \Hy@SaveSpaceFactor
2588 }%
2589 }%
2590 \Hy@RestoreSpaceFactor
2591 \fi
2592 }

```

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

```

2593 \def\Hy@SaveLastskip{%
2594   \let\Hy@RestoreLastskip\relax
2595   \ifvmode
2596     \ifdim\lastskip=\z@
2597       \let\Hy@RestoreLastskip\nobreak
2598     \else
2599       \begingroup
2600         \skip@=-\lastskip
2601         \edef\x{%
2602           \endgroup
2603           \def\noexpand\Hy@RestoreLastskip{%
2604             \noexpand\ifvmode
2605               \noexpand\nobreak
2606               \vskip\the\skip@
2607               \vskip\the\lastskip\relax
2608             \noexpand\fi
2609           }%
2610         }%
2611       \x
2612     \fi
2613   \else
2614     \ifhmode
2615       \ifdim\lastskip=\z@
2616         \let\Hy@RestoreLastskip\nobreak
2617       \else
2618         \begingroup
2619           \skip@=-\lastskip
2620           \edef\x{%
2621             \endgroup
2622             \def\noexpand\Hy@RestoreLastskip{%
2623               \noexpand\ifhmode
2624                 \noexpand\nobreak
2625                 \hskip\the\skip@
2626                 \hskip\the\lastskip\relax
2627               \noexpand\fi
2628             }%
2629           }%
2630         \x
2631       \fi
2632     \fi
2633   \fi
2634 }%

```



## 9 Options

```

2635 \SetupKeyvalOptions{%
2636   family=Hyp,%
2637   prefix=HyOpt%
2638 }

```

### 9.1 Help macros

\IfHyperBooleanExists

```

2639 \def\IfHyperBooleanExists#1{%
2640   \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2641     \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2642   }%
2643 }

2644 \@namedef{KV@Hyp@stoppeearly@default}{}

```

\IfHyperBoolean

```

2645 \def\IfHyperBoolean#1{%
2646   \IfHyperBooleanExists{#1}{%
2647     \csname ifHy@#1\endcsname
2648     \expandafter\ltx@firstoftwo
2649   \else
2650     \expandafter\ltx@secondoftwo
2651   \fi
2652 } \ltx@secondoftwo
2653 }

```

\Hy@boolkey

```

2654 \def\Hy@boolkey#1#2{%
2655   \edef\Hy@tempa{#2}%
2656   \lowercase\expandafter{%
2657     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2658   }%
2659   \ifx\Hy@tempa\@empty
2660     \let\Hy@tempa\Hy@true
2661   \fi
2662   \ifx\Hy@tempa\Hy@true
2663   \else
2664     \ifx\Hy@tempa\Hy@false
2665     \else
2666       \let\Hy@tempa\relax
2667     \fi
2668   \fi
2669   \ifx\Hy@tempa\relax
2670     \Hy@WarnOptionValue{#2}{#1}{‘true’ or ‘false’}%
2671   \else
2672     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2673     \csname Hy@#1\Hy@tempa\endcsname
2674   \fi
2675 }

```

\Hy@WarnOptionValue

```

2676 \def\Hy@WarnOptionValue#1#2#3{%
2677   \Hy@Warning{%
2678     Unexpected value ‘#1’\MessageBreak
2679     of option ‘#2’ instead of\MessageBreak

```

```

2680   #3%
2681 }%
2682 }

```

`\Hy@DisableOption`

```

2683 \def\Hy@DisableOption#1{%
2684   \ltx@ifundefined{KV@Hyp@#1@default}{%
2685     \define@key{Hyp}{#1}%
2686   }{%
2687     \define@key{Hyp}{#1}[]%
2688   }%
2689   {\Hy@WarnOptionDisabled{#1}}%
2690 }

```

`\Hy@WarnOptionDisabled`

```

2691 \def\Hy@WarnOptionDisabled#1{%
2692   \Hy@Warning{%
2693     Option ‘#1’ has already been used,\MessageBreak
2694     setting the option has no effect%
2695   }%
2696 }

```

`\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`.

```

2697 \def\Hy@CheckOptionValue#1#2#3{%
2698   \begingroup
2699   \edef\x{#1}%
2700   \@onelevel@sanitize\x
2701   \let\y=y%
2702   \def\do##1##2{%
2703     \def\z{##1}%
2704     \@onelevel@sanitize\z
2705     \ifx\x\z
2706       \let\y=n%
2707       \let\do\@gobbletwo
2708     \fi
2709   }%
2710   #3%
2711   \ifx\y y%
2712     \def\do##1##2{%
2713       * ‘##1’%
2714       \ifx\##2\\\else\space(##2)\fi
2715       \MessageBreak
2716     }%
2717     \Hy@Warning{%
2718       Values of option ‘#2’:\MessageBreak
2719       #3%
2720       * An empty value disables the option.\MessageBreak
2721       Unknown value ‘\x’%
2722     }%
2723   \fi
2724   \endgroup
2725 }

```

`\Hy@DefNameKey` `#1`: option name

`#2`: `\do` list with known values, first argument of `\do` is value, second argument is a comment.

```

2726 \def\Hy@DefNameKey#1{%
2727   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2728 }

```

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

```

2729 \def\Hy@@DefNameKey#1#2#3{%
2730   \define@key{Hyp}{#2}{%
2731     \edef#1{##1}%
2732     \ifx#1\@empty
2733       \else
2734         \Hy@CheckOptionValue{##1}{#2}{#3}%
2735       \fi
2736     }%
2737   \let#1\@empty
2738 }

```

\Hy@UseNameKey

```

2739 \def\Hy@UseNameKey#1#2{%
2740   \ifx#2\@empty
2741     \else
2742       /#1/#2%
2743     \fi
2744 }

```

## 9.2 Defining the options

```

2745 \define@key{Hyp}{implicit}[true]{%
2746   \Hy@boolkey{implicit}{#1}%
2747 }
2748 \define@key{Hyp}{draft}[true]{%
2749   \Hy@boolkey{draft}{#1}%
2750 }
2751 \define@key{Hyp}{final}[true]{%
2752   \Hy@boolkey{final}{#1}%
2753 }
2754 \let\KV@Hyp@nolinks\KV@Hyp@draft
2755 \def\Hy@ObsoletePaperOption#1{%
2756   \Hy@WarningNoLine{%
2757     Option ‘#1’ is no longer used%
2758   }%
2759   \define@key{Hyp}{#1}[true]{}%
2760 }
2761 \def\Hy@temp#1{%
2762   \define@key{Hyp}{#1}[true]{%
2763     \Hy@ObsoletePaperOption{#1}%
2764   }%
2765 }
2766 \Hy@temp{a4paper}
2767 \Hy@temp{a5paper}
2768 \Hy@temp{b5paper}
2769 \Hy@temp{letterpaper}
2770 \Hy@temp{legalpaper}
2771 \Hy@temp{executivepaper}
2772 \define@key{Hyp}{setpagesize}[true]{%

```

```

2773 \Hy@boolkey{setpagesize}{#1}%
2774 }
2775 \define@key{Hyp}{debug}[true]{%
2776 \Hy@boolkey{debug}{#1}%
2777 }
2778 \define@key{Hyp}{linktocpage}[true]{%
2779 \Hy@boolkey{linktocpage}{#1}%
2780 \ifHy@linktocpage
2781 \let\Hy@linktoc\Hy@linktoc@page
2782 \else
2783 \let\Hy@linktoc\Hy@linktoc@section
2784 \fi
2785 }
2786 \chardef\Hy@linktoc@none=0 %
2787 \chardef\Hy@linktoc@section=1 %
2788 \chardef\Hy@linktoc@page=2 %
2789 \chardef\Hy@linktoc@all=3 %
2790 \ifHy@linktocpage
2791 \let\Hy@linktoc\Hy@linktoc@page
2792 \else
2793 \let\Hy@linktoc\Hy@linktoc@section
2794 \fi
2795 \define@key{Hyp}{linktoc}{%
2796 \ifundefined{Hy@linktoc@#1}{%
2797 \Hy@Warning{%
2798 Unexpected value '#1' of\MessageBreak
2799 option 'linktoc' instead of 'none',\MessageBreak
2800 'section', 'page' or 'all'%
2801 }%
2802 }{%
2803 \expandafter\let\expandafter\Hy@linktoc
2804 \csname Hy@linktoc@#1\endcsname
2805 }%
2806 }
2807 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2808 \let\XR@ext\relax
2809 \define@key{Hyp}{verbose}[true]{%
2810 \Hy@boolkey{verbose}{#1}%
2811 }
2812 \define@key{Hyp}{typexml}[true]{%
2813 \Hy@boolkey{typexml}{#1}%
2814 }

```

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.

```

2815 \define@key{Hyp}{raiselinks}[true]{%
2816 \Hy@boolkey{raiselinks}{#1}%
2817 }

```

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

```

2818 \def\Hy@setbreaklinks#1{%
2819 \csname breaklinks#1\endcsname
2820 }
2821 \def\Hy@breaklinks@unsupported{%
2822 \ifx\Hy@setbreaklinks\@gobble
2823 \ifHy@breaklinks

```

```

2824 \Hy@WarningNoLine{%
2825   You have enabled option 'breaklinks'.\MessageBreak
2826   But driver '\Hy@driver.def' does not support this.\MessageBreak
2827   Expect trouble with the link areas of broken links%
2828 }%
2829 \fi
2830 \fi
2831 }

```

```

2832 \define@key{Hyp}{breaklinks}[true]{%
2833   \Hy@boolkey{breaklinks}{#1}%
2834   \let\Hy@setbreaklinks\@gobble
2835 }

2836 \define@key{Hyp}{localanchorname}[true]{%
2837   \Hy@boolkey{localanchorname}{#1}%
2838 }

```

Determines whether an automatic anchor is put on each page

```

2839 \define@key{Hyp}{pageanchor}[true]{%
2840   \Hy@boolkey{pageanchor}{#1}%
2841 }

```

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.

```

2842 \define@key{Hyp}{plainpages}[true]{%
2843   \Hy@boolkey{plainpages}{#1}%
2844 }

```

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?

```

2845 \define@key{Hyp}{naturalnames}[true]{%
2846   \Hy@boolkey{naturalnames}{#1}%
2847 }

```

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

```

2848 \define@key{Hyp}{hypertexnames}[true]{%
2849   \Hy@boolkey{hypertexnames}{#1}%
2850 }

```

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

```

2851 \define@key{Hyp}{nesting}[true]{%
2852   \Hy@boolkey{nesting}{#1}%
2853 }

```

```

2854 \define@key{Hyp}{destlabel}[true]{%
2855   \Hy@boolkey{destlabel}{#1}%
2856 }

```

```

2857 \define@key{Hyp}{unicode}[true]{%
2858   \Hy@boolkey{unicode}{#1}%
2859   \ifHy@unicode
2860     \def\HyPsd@pdfencoding{unicode}%
2861     \HyPsd@LoadUnicode
2862   \else
2863     \def\HyPsd@pdfencoding{pdfdoc}%
2864   \fi
2865 }

2866 \Hy@AtBeginDocument{%
2867   \ifx\HyPsd@LoadUnicode\relax
2868   \else

```

```

2869 \def\HyPsd@LoadUnicode{%
2870 \Hy@Error{%
2871 Unicode support for bookmarks is not available.\MessageBreak
2872 Activate unicode support by using one of the options\MessageBreak
2873 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2874 in the preamble%
2875 } \@ehc
2876 \global\let\HyPsd@LoadUnicode\relax
2877 \global\Hy@unicodetrue
2878 \global\let\Hy@unicodetrue\Hy@unicodetrue
2879 }%
2880 \fi
2881 }

2882 \define@key{Hyp}{pdfencoding}{%
2883 \edef\HyPsd@temp{#1}%
2884 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2885 \let\HyPsd@pdfencoding\HyPsd@temp
2886 \Hy@unicodetrue
2887 \else
2888 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2889 \z@
2890 \else
2891 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2892 \z@
2893 \else
2894 \@ne
2895 \fi
2896 \fi
2897 \let\HyPsd@pdfencoding\HyPsd@temp
2898 \hypersetup{unicode}%
2899 \ifHy@unicode
2900 \def\HyPsd@pdfencoding{#1}%
2901 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2902 \HyPsd@LoadStringEnc
2903 \fi
2904 \else
2905 \Hy@Warning{Cannot switch to unicode bookmarks}%
2906 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2907 \fi
2908 \else
2909 \@onelevel@sanitize\HyPsd@temp
2910 \Hy@Warning{%
2911 Values of option 'pdfencoding':\MessageBreak
2912 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2913 Ignoring unknown value '\HyPsd@temp'%
2914 }%
2915 \fi
2916 \fi
2917 }

2918 \def\HyPsd@pdfencoding@auto{auto}
2919 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2920 \def\HyPsd@pdfencoding@unicode{unicode}
2921 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2922 \def\HyPsd@LoadStringEnc{%
2923 \RequirePackage{stringenc}[2009/12/15]%
2924 \let\HyPsd@LoadStringEnc\relax
2925 }

```

```

2926 \Hy@AtBeginDocument{%
2927   \ifpackageloaded{stringenc}{%
2928     \let\HyPsd@LoadStringEnc\relax
2929   }{%
2930     \def\HyPsd@LoadStringEnc{%
2931       \Hy@WarningNoLine{%
2932         Missing package ‘stringenc’. Use ‘pdfencoding=auto’\MessageBreak
2933         in the preamble or load the package there%
2934       }%
2935     }%
2936   }%
2937 }

2938 \define@key{Hyp}{psdextra}[true]{%
2939   \Hy@boolkey{psdextra}{#1}%
2940 }

2941 \def\hypersetup{\kvsetkeys{Hyp}}

2942 \newif\ifHy@setpdfversion
2943 \define@key{Hyp}{pdfversion}{%
2944   \@ifundefined{Hy@pdfversion@#1}{%
2945     \PackageWarning{hyperref}{%
2946       Unsupported PDF version ‘#1’\MessageBreak
2947       Valid values: 1.2 until 1.9%
2948     }%
2949   }{%
2950     \Hy@setpdfversiontrue
2951     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2952   }%
2953 }
2954 \@namedef{Hy@pdfversion@1.2}{2}%
2955 \@namedef{Hy@pdfversion@1.3}{3}%
2956 \@namedef{Hy@pdfversion@1.4}{4}%
2957 \@namedef{Hy@pdfversion@1.5}{5}%
2958 \@namedef{Hy@pdfversion@1.6}{6}%
2959 \@namedef{Hy@pdfversion@1.7}{7}%
2960 \@namedef{Hy@pdfversion@1.8}{8}%
2961 \@namedef{Hy@pdfversion@1.9}{9}%
2962 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

2963 \newif\ifHy@DviMode
2964 \let\Hy@DviErrMsg\ltx@empty
2965 \ifpdf
2966   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2967 \else
2968   \ifxetex
2969     \def\Hy@DviErrMsg{XeTeX is running}%
2970   \else
2971     \ifvtex
2972       \ifvtexdvi
2973         \Hy@DviModetrue
2974       \else
2975         \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2976       \fi
2977     \else
2978       \Hy@DviModetrue

```

```

2979 \fi
2980 \fi
2981 \fi
2982 \def\HyOpt@CheckDvi#1{%
2983 \ifHy@DviMode
2984 \expandafter\ltx@firstofone
2985 \else
2986 \Hy@Error{%
2987 Wrong DVI mode driver option '#1',\MessageBreak
2988 because \Hy@DviErrMsg
2989 }\@ehc
2990 \expandafter\ltx@gobble
2991 \fi
2992 }

2993 \DeclareVoidOption{tex4ht}{%
2994 \Hy@texhttrue
2995 \kvsetkeys{Hyp}{colorlinks=true}%
2996 \def\BeforeTeXIVht{\RequirePackage{color}}%
2997 \def\Hy@driver{htex4ht}%
2998 \def\MaybeStopEarly{%
2999 \Hy@Message{Stopped early}}%
3000 \Hy@AtBeginDocument{%
3001 \PDF@FinishDoc
3002 \gdef\PDF@FinishDoc{}}%
3003 }%
3004 \endinput
3005 }%
3006 }

3007 \DeclareVoidOption{pdftex}{%
3008 \ifpdf
3009 \def\Hy@driver{hpdftex}%
3010 \else
3011 \Hy@Error{%
3012 Wrong driver option 'pdftex',\MessageBreak
3013 because pdfTeX in PDF mode is not detected%
3014 }\@ehc
3015 \fi
3016 }

3017 \DeclareVoidOption{nativepdf}{%
3018 \HyOpt@CheckDvi{nativepdf}{%
3019 \def\Hy@driver{hdvips}%
3020 }%
3021 }

3022 \DeclareVoidOption{dvipdfm}{%
3023 \HyOpt@CheckDvi{dvipdfm}{%
3024 \def\Hy@driver{hdvipdfm}%
3025 }%
3026 }

3027 \DeclareVoidOption{dvipdfmx}{%
3028 \HyOpt@CheckDvi{dvipdfmx}{%
3029 \def\Hy@driver{hdvipdfm}%
3030 }%
3031 }

3032 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
3033 \expandafter\ifx\csname if#1\expandafter\endcsname
3034 \csname iftrue\endcsname
3035 \chardef\SpecialDvipdfmxOutlineOpen\@ne

```



```

3036 \else
3037   \chardef\SpecialDvipdfmxOutlineOpen\z@
3038 \fi
3039 }
3040 \DeclareVoidOption{xetex}{%
3041   \ifxetex
3042     \def\Hy@driver{hxtex}%
3043   \else
3044     \Hy@Error{%
3045       Wrong driver option 'xetex',\MessageBreak
3046       because XeTeX is not detected%
3047     }\@ehc
3048   \fi
3049 }
3050 \DeclareVoidOption{pdfmark}{%
3051   \HyOpt@CheckDvi{pdfmark}{%
3052     \def\Hy@driver{hdvips}%
3053   }%
3054 }
3055 \DeclareVoidOption{dvips}{%
3056   \HyOpt@CheckDvi{dvips}{%
3057     \def\Hy@driver{hdvips}%
3058   }%
3059 }
3060 \DeclareVoidOption{hypertex}{%
3061   \HyOpt@CheckDvi{hypertex}{%
3062     \def\Hy@driver{hypertex}%
3063   }%
3064 }
3065 \let\Hy@MaybeStopNow\relax
3066 \DeclareVoidOption{vtex}{%
3067   \ifvtex
3068     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3069     \def\Hy@driver{hvtex}%
3070   \else
3071     \ifnum\OpMode=10\relax
3072       \def\Hy@driver{hvtexhtm}%
3073       \def\MaybeStopEarly{%
3074         \Hy@Message{Stopped early}%
3075         \Hy@AtBeginDocument{%
3076           \PDF@FinishDoc
3077           \gdef\PDF@FinishDoc{}%
3078         }%
3079       \endinput
3080     }%
3081   \else
3082     \Hy@Error{%
3083       Wrong driver option 'vtex',\MessageBreak
3084       because of wrong OpMode (\the\OpMode)%
3085     }\@ehc
3086   \fi
3087 \fi
3088 \else
3089   \Hy@Error{%
3090     Wrong driver option 'vtex',\MessageBreak
3091     because VTeX is not running%
3092   }\@ehc

```

```

3093 \fi
3094 }
3095 \DeclareVoidOption{vtxpdfmark}{%
3096 \ifvtex
3097 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3098 \def\Hy@driver{hvtexmrk}%
3099 \else
3100 \Hy@Error{%
3101 Wrong driver option 'vtxpdfmark',\MessageBreak
3102 because of wrong OpMode (\the\OpMode)%
3103 }\@ehc
3104 \fi
3105 \else
3106 \Hy@Error{%
3107 Wrong driver option 'vtxpdfmark',\MessageBreak
3108 because VTeX is not running%
3109 }\@ehc
3110 \fi
3111 }
3112 \DeclareVoidOption{dviwindo}{%
3113 \HyOpt@CheckDvi{dviwindo}{%
3114 \def\Hy@driver{hdviwind}%
3115 \kvsetkeys{Hyp}{colorlinks}%
3116 \PassOptionsToPackage{dviwindo}{color}%
3117 }%
3118 }
3119 \DeclareVoidOption{dvipsone}{%
3120 \HyOpt@CheckDvi{dvipsone}{%
3121 \def\Hy@driver{hdvipson}%
3122 }%
3123 }
3124 \DeclareVoidOption{textures}{%
3125 \HyOpt@CheckDvi{textures}{%
3126 \def\Hy@driver{htexture}%
3127 }%
3128 }
3129 \DeclareVoidOption{latex2html}{%
3130 \HyOpt@CheckDvi{latex2html}{%
3131 \Hy@AtBeginDocument{\@latex2htmlX}%
3132 }%
3133 }

```

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

```

3134 \DeclareVoidOption{ps2pdf}{%
3135 \HyOpt@CheckDvi{ps2pdf}{%
3136 \def\Hy@driver{hdvips}%
3137 }%
3138 }
3139 \let\HyOpt@DriverFallback\ltx@empty
3140 \define@key{Hyp}{driverfallback}{%
3141 \ifHy@DviMode
3142 \def\HyOpt@DriverFallback{#1}%
3143 \Hy@Match\HyOpt@DriverFallback{%
3144 ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3145 latex2html|tex4ht)$%
3146 }{}{%
3147 \let\HyOpt@DriverFallback\ltx@empty
3148 }%

```

```

3149 \fi
3150 }

```

## 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.

```

3151 \define@key{Hyp}{hyperfigures}[true]{%
3152   \Hy@boolkey{hyperfigures}{#1}%
3153 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3154 \define@key{Hyp}{hyperfootnotes}[true]{%
3155   \Hy@boolkey{hyperfootnotes}{#1}%
3156 }

```

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

```

3157 \def\back@none{none}
3158 \def\back@section{section}
3159 \def\back@page{page}
3160 \def\back@slide{slide}
3161 \define@key{Hyp}{backref}[section]{%
3162   \lowercase{\def\Hy@tempa{#1}}%
3163   \ifx\Hy@tempa\@empty
3164     \let\Hy@tempa\back@section
3165   \fi
3166   \ifx\Hy@tempa\Hy@false
3167     \let\Hy@tempa\back@none
3168   \fi
3169   \ifx\Hy@tempa\back@slide
3170     \let\Hy@tempa\back@section
3171   \fi
3172   \ifx\Hy@tempa\back@page
3173     \PassOptionsToPackage{hyperpageref}{backref}%
3174     \Hy@backreftrue
3175   \else
3176     \ifx\Hy@tempa\back@section
3177       \PassOptionsToPackage{hyperref}{backref}%
3178       \Hy@backreftrue
3179     \else
3180       \ifx\Hy@tempa\back@none
3181         \Hy@backreffalse
3182       \else
3183         \Hy@WarnOptionValue{#1}{backref}{%
3184           'section', 'slide', 'page', 'none',\MessageBreak
3185           or 'false'}%
3186       \fi
3187     \fi
3188   \fi
3189 }
3190 \define@key{Hyp}{pagebackref}[true]{%
3191   \edef\Hy@tempa{#1}%
3192   \lowercase\expandafter{%
3193     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3194   }%
3195   \ifx\Hy@tempa\@empty
3196     \let\Hy@tempa\Hy@true
3197   \fi

```

```

3198 \ifx\Hy@tempa\Hy@true
3199   \PassOptionsToPackage{hyperpageref}{backref}%
3200   \Hy@backreftrue
3201 \else
3202   \ifx\Hy@tempa\Hy@false
3203     \Hy@backreffalse
3204   \else
3205     \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
3206   \fi
3207 \fi
3208 }

```

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

```

3209 \define@key{Hyp}{hyperindex}[true]{%
3210   \Hy@boolkey{hyperindex}{#1}%
3211 }

```

Configuration of encap char.

```

3212 \define@key{Hyp}{encap}[\\]{%
3213   \def\HyInd@EncapChar{#1}%
3214 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

3215 \def\HyLang@afrikaans{%
3216   \def\equationautorefname{Vergelyking}%
3217   \def\footnoteautorefname{Voetnota}%
3218   \def\itemautorefname{Item}%
3219   \def\figureautorefname{Figuur}%
3220   \def\tableautorefname{Tabel}%
3221   \def\partautorefname{Deel}%
3222   \def\appendixautorefname{Bylae}%
3223   \def\chapterautorefname{Hoofstuk}%
3224   \def\sectionautorefname{Afdeling}%
3225   \def\subsectionautorefname{Subafdeling}%
3226   \def\subsubsectionautorefname{Subsubafdeling}%
3227   \def\paragraphautorefname{Paragraaf}%
3228   \def\subparagraphautorefname{Subparagraaf}%
3229   \def\FancyVerbLineautorefname{Lyn}%
3230   \def\theoremautorefname{Teorema}%
3231   \def\pageautorefname{Bladsy}%
3232 }
3233 \def\HyLang@english{%
3234   \def\equationautorefname{Equation}%
3235   \def\footnoteautorefname{footnote}%
3236   \def\itemautorefname{item}%
3237   \def\figureautorefname{Figure}%
3238   \def\tableautorefname{Table}%
3239   \def\partautorefname{Part}%
3240   \def\appendixautorefname{Appendix}%
3241   \def\chapterautorefname{chapter}%
3242   \def\sectionautorefname{section}%
3243   \def\subsectionautorefname{subsection}%
3244   \def\subsubsectionautorefname{subsubsection}%
3245   \def\paragraphautorefname{paragraph}%

```

```

3246 \def\subparagraphautorefname{subparagraph}%
3247 \def\FancyVerbLineautorefname{line}%
3248 \def\theoremautorefname{Theorem}%
3249 \def\pageautorefname{page}%
3250 }
3251 \def\HyLang@french{%
3252 \def\equationautorefname{'Equation}%
3253 \def\footnoteautorefname{note}%
3254 \def\itemautorefname{item}%
3255 \def\figureautorefname{Figure}%
3256 \def\tableautorefname{Tableau}%
3257 \def\partautorefname{Partie}%
3258 \def\appendixautorefname{Appendice}%
3259 \def\chapterautorefname{chapitre}%
3260 \def\sectionautorefname{section}%
3261 \def\subsectionautorefname{sous-section}%
3262 \def\subsubsectionautorefname{sous-sous-section}%
3263 \def\paragraphautorefname{paragraphe}%
3264 \def\subparagraphautorefname{sous-paragraphe}%
3265 \def\FancyVerbLineautorefname{ligne}%
3266 \def\theoremautorefname{Th'eor'eme}%
3267 \def\pageautorefname{page}%
3268 }
3269 \def\HyLang@german{%
3270 \def\equationautorefname{Gleichung}%
3271 \def\footnoteautorefname{Fu'ss note}%
3272 \def\itemautorefname{Punkt}%
3273 \def\figureautorefname{Abbildung}%
3274 \def\tableautorefname{Tabelle}%
3275 \def\partautorefname{Teil}%
3276 \def\appendixautorefname{Anhang}%
3277 \def\chapterautorefname{Kapitel}%
3278 \def\sectionautorefname{Abschnitt}%
3279 \def\subsectionautorefname{Unterabschnitt}%
3280 \def\subsubsectionautorefname{Unterunterabschnitt}%
3281 \def\paragraphautorefname{Absatz}%
3282 \def\subparagraphautorefname{Unterabsatz}%
3283 \def\FancyVerbLineautorefname{Zeile}%
3284 \def\theoremautorefname{Theorem}%
3285 \def\pageautorefname{Seite}%
3286 }
3287 \def\HyLang@italian{%
3288 \def\equationautorefname{Equazione}%
3289 \def\footnoteautorefname{nota}%
3290 \def\itemautorefname{punto}%
3291 \def\figureautorefname{Figura}%
3292 \def\tableautorefname{Tabella}%
3293 \def\partautorefname{Parte}%
3294 \def\appendixautorefname{Appendice}%
3295 \def\chapterautorefname{Capitolo}%
3296 \def\sectionautorefname{sezione}%
3297 \def\subsectionautorefname{sottosezione}%
3298 \def\subsubsectionautorefname{sottosottosezione}%
3299 \def\paragraphautorefname{paragrafo}%
3300 \def\subparagraphautorefname{sottoparagrafo}%
3301 \def\FancyVerbLineautorefname{linea}%
3302 \def\theoremautorefname{Teorema}%

```

```

3303 \def\pageautorefname{Pag.\@}%
3304 }
3305 \def\HyLang@magyar{%
3306 \def\equationautorefname{Egyenlet}%
3307 \def\footnoteautorefname{1\abjegyzet}%
3308 \def\itemautorefname{Elem}%
3309 \def\figureautorefname{\Abra}%
3310 \def\tableautorefname{T\abl\azat}%
3311 \def\partautorefname{R\esz}%
3312 \def\appendixautorefname{F\”uggel\ek}%
3313 \def\chapterautorefname{fejezet}%
3314 \def\sectionautorefname{szakasz}%
3315 \def\subsectionautorefname{alszakasz}%
3316 \def\subsubsectionautorefname{alalszakasz}%
3317 \def\paragraphautorefname{bekezd\es}%
3318 \def\subparagraphautorefname{albekezd\es}%
3319 \def\FancyVerbLineautorefname{sor}%
3320 \def\theoremautorefname{T\etel}%
3321 \def\pageautorefname{oldal}%
3322 }
3323 \def\HyLang@portuges{%
3324 \def\equationautorefname{Equa\c c\~ao}%
3325 \def\footnoteautorefname{Nota de rodap\’e}%
3326 \def\itemautorefname{Item}%
3327 \def\figureautorefname{Figura}%
3328 \def\tableautorefname{Tabela}%
3329 \def\partautorefname{Parte}%
3330 \def\appendixautorefname{Ap\^endice}%
3331 \def\chapterautorefname{Cap\’itulo}%
3332 \def\sectionautorefname{Se\c c\~ao}%
3333 \def\subsectionautorefname{Subse\c c\~ao}%
3334 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3335 \def\paragraphautorefname{par\’agrafo}%
3336 \def\subparagraphautorefname{subpar\’agrafo}%
3337 \def\FancyVerbLineautorefname{linha}%
3338 \def\theoremautorefname{Teorema}%
3339 \def\pageautorefname{P\’agina}%
3340 }

```

Next commented section for Russian is provided by Olga Lapko.

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

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

```

3341 \def\HyLang@russian{%

```

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

```

3342 \def\equationautorefname{\cyr\cyrv\cyrery\cyrr.}%

```

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

```

3343 % \def\equationautorefname{%
3344 % \cyr\cyrv\cyrery\cyrr\cyra\cyrzh\cyre\cyrn\cyri\cyre

```

3345 % }%

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

```
3346 \def\footnoteautorefname{%
3347   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
3348 }%
```

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

```
3349 % \def\footnoteautorefname{%
3350 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
3351 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
3352 % }%
```

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

```
3353 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3354 % \def\Accfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyru}%
```

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

```
3355 \def\itemautorefname{\cyr\cyrp.}%
3356 % \def\itemautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
```

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

```
3357 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3358 \def\tableautorefname{\cyr\cyrt\cyra\cyrb\cyrl.}%
```

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

```
3359 \def\partautorefname{\cyr\cyrch.}%
3360 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3361 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
```

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

```
3362 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
3363 % \def\appendixautorefname{%
3364 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre
3365 % }%
```

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.

```
3366 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3367 \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.

```
3368 \def\paragraphautorefname{\cyr\cyrp.}%
3369 \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.

```
3370 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3371 % \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.

```
3372 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3373 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3374 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3375 % \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 ...

```
3376 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3377 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3378 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3379 \def\pageautorefname{\cyr\cyrs.}%
3380 }
```

```
3381 \def\HyLang@spanish{%
3382 \def\equationautorefname{Ecuaci\on}%
3383 \def\footnoteautorefname{Nota a pie de p\agina}%
3384 \def\itemautorefname{Elemento}%
3385 \def\figureautorefname{Figura}%
3386 \def\tableautorefname{Tabla}%
3387 \def\partautorefname{Parte}%
3388 \def\appendixautorefname{Ap\endice}%
3389 \def\chapterautorefname{Cap\itulo}%
3390 \def\sectionautorefname{Secci\on}%
3391 \def\subsectionautorefname{Subsecci\on}%
3392 \def\subsubsectionautorefname{Subsubsecci\on}%
3393 \def\paragraphautorefname{P\arrafo}%
3394 \def\subparagraphautorefname{Subp\arrafo}%
3395 \def\FancyVerbLineautorefname{L\ineia}%
3396 \def\theoremautorefname{Teorema}%
3397 \def\pageautorefname{P\agina}%
3398 }
3399 \def\HyLang@vietnamese{%
3400 \def\equationautorefname{Ph\uhorn}\ohorn{ng tr\inh}%
3401 \def\footnoteautorefname{Ch\u th\ich}%
3402 \def\itemautorefname{m\du{c}%
3403 \def\figureautorefname{H\inh}%
3404 \def\tableautorefname{B\h{a}ng}%
3405 \def\partautorefname{Ph\acircumflex{n}%
```



```

3406 \def\appendixautorefname{Ph\d{u} l\d{u}c}%
3407 \def\chapterautorefname{ch\uhorn{ }\ohorn{ }ng}%
3408 \def\sectionautorefname{m\d{u}c}%
3409 \def\subsectionautorefname{m\d{u}c}%
3410 \def\subsubsectionautorefname{m\d{u}c}%
3411 \def\paragraphautorefname{\dj{ }o\d{a}n}%
3412 \def\subparagraphautorefname{\dj{ }o\d{a}n}%
3413 \def\FancyVerbLineautorefname{d\`ong}%
3414 \def\theoremautorefname{DJ{ }\d{i}nh l\`y}%
3415 \def\pageautorefname{Trang}%
3416 }

```

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

```

3417 \def\HyLang@addto#1#2{%
3418   #2%
3419   \@temptokena{#2}%
3420   \ifx#1\relax
3421     \let#1\@empty
3422   \fi
3423   \ifx#1\@undefined
3424     \edef#1{\the\@temptokena}%
3425   \else
3426     \toks@\expandafter{#1}%
3427     \edef#1{\the\toks@\the\@temptokena}%
3428   \fi
3429   \@temptokena{}\toks@\@temptokena
3430 }

3431 \def\HyLang@DeclareLang#1#2#3{%
3432   \@ifpackagewith{babel}{#1}{%
3433     \expandafter\HyLang@addto
3434       \csname extras#1\expandafter\endcsname
3435       \csname HyLang@#2\endcsname
3436     \begingroup
3437       \edef\x{\endgroup
3438         #3%
3439       }%
3440       \x
3441       \@namedef{HyLang@#1@done}{}%
3442     }{}%
3443   \begingroup
3444     \edef\x##1#2{%
3445       \noexpand\ifx##2\relax
3446         \errmessage{No definitions for language #2' found!}%
3447       \noexpand\fi
3448     \endgroup
3449     \noexpand\define@key{Hyp}{#1}[]{%
3450       \noexpand\@ifundefined{HyLang@#1@done}{%
3451         \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3452         #3%
3453         \noexpand\@namedef{HyLang@#1@done}{}%
3454       }{}%
3455     }%
3456   }%
3457   \expandafter\x\csname extras#1\expandafter\endcsname
3458     \csname HyLang@#2\endcsname
3459 }

```

```

3460 \HyLang@DeclareLang{english}{english}{}
3461 \HyLang@DeclareLang{UKenglish}{english}{}
3462 \HyLang@DeclareLang{british}{english}{}
3463 \HyLang@DeclareLang{USenglish}{english}{}
3464 \HyLang@DeclareLang{american}{english}{}
3465 \HyLang@DeclareLang{german}{german}{}
3466 \HyLang@DeclareLang{austrian}{german}{}
3467 \HyLang@DeclareLang{ngerman}{german}{}
3468 \HyLang@DeclareLang{naustrian}{german}{}
3469 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3470 \HyLang@DeclareLang{brazil}{portuges}{}
3471 \HyLang@DeclareLang{brazilian}{portuges}{}
3472 \HyLang@DeclareLang{portuguese}{portuges}{}
3473 \HyLang@DeclareLang{spanish}{spanish}{}
3474 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3475 \HyLang@DeclareLang{french}{french}{}
3476 \HyLang@DeclareLang{frenchb}{french}{}
3477 \HyLang@DeclareLang{francais}{french}{}
3478 \HyLang@DeclareLang{acadian}{french}{}
3479 \HyLang@DeclareLang{canadien}{french}{}
3480 \HyLang@DeclareLang{italian}{italian}{}
3481 \HyLang@DeclareLang{magyar}{magyar}{}
3482 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3483 \DeclareVoidOption{vietnamese}{%
3484   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3485   \Hy@AtEndOfPackage{%
3486     \ifundefined{T@PU}{}{}%
3487     \input{puvnenc.def}%
3488   }%
3489 }%
3490 }
3491 \DeclareVoidOption{vietnam}{%
3492   \HyLang@addto\extrasvietnam\HyLang@vietnamese
3493   \Hy@AtEndOfPackage{%
3494     \ifundefined{T@PU}{}{}%
3495     \input{puvnenc.def}%
3496   }%
3497 }%
3498 }

```

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

```

3499 \DeclareVoidOption{arabic}{%
3500   \Hy@AtEndOfPackage{%
3501     \ifundefined{T@PU}{}{}%
3502     \input{puarenc.def}%
3503   }%
3504 }%
3505 }

```

## 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.

```

3506 \define@key{Hyp}{colorlinks}[true]{%
3507   \Hy@boolkey{colorlinks}{#1}%
3508 }

```

```

3509 \DeclareVoidOption{hidelinks}{%
3510   \Hy@colorlinksfalse
3511   \Hy@ocgcolorlinksfalse
3512   \Hy@frenchlinksfalse
3513   \def\Hy@colorlink##1{\begingroup}%
3514   \def\Hy@endcolorlink{\endgroup}%
3515   \def\@pdfborder{0 0 0}%
3516   \let\@pdfborderstyle\ltx@empty
3517 }
3518 \define@key{Hyp}{ocgcolorlinks}[true]{%
3519   \Hy@boolkey{ocgcolorlinks}{#1}%
3520 }
3521 \Hy@AtBeginDocument{%
3522   \begingroup
3523   \@ifundefined{OBJ@OCG@view}{%
3524     \ifHy@ocgcolorlinks
3525       \Hy@Warning{%
3526         Driver does not support 'ocgcolorlinks',\MessageBreak
3527         using 'colorlinks' instead%
3528       }%
3529     \fi
3530   }{}%
3531 \endgroup
3532 }
3533 \define@key{Hyp}{frenchlinks}[true]{%
3534   \Hy@boolkey{frenchlinks}{#1}%
3535 }

```

## 14 Bookmarking

```

3536 \begingroup\expandafter\expandafter\expandafter\endgroup
3537 \expandafter\ifx\csname chapter\endcsname\relax
3538   \def\toclevel@part{0}%
3539 \else
3540   \def\toclevel@part{-1}%
3541 \fi
3542 \def\toclevel@chapter{0}
3543 \def\toclevel@section{1}
3544 \def\toclevel@subsection{2}
3545 \def\toclevel@subsubsection{3}
3546 \def\toclevel@paragraph{4}
3547 \def\toclevel@subparagraph{5}
3548 \def\toclevel@figure{0}
3549 \def\toclevel@table{0}
3550 \@ifpackageloaded{listings}{%
3551   \providecommand*\theHlstlisting{\thelstlisting}%
3552   \providecommand*\toclevel@lstlisting{0}%
3553 }{}
3554 \@ifpackageloaded{listing}{%
3555   \providecommand*\theHlisting{\thelisting}%
3556   \providecommand*\toclevel@listing{0}%
3557 }{}
3558 \define@key{Hyp}{bookmarks}[true]{%
3559   \Hy@boolkey{bookmarks}{#1}%
3560 }
3561 \define@key{Hyp}{bookmarksopen}[true]{%

```

```

3562 \Hy@boolkey{bookmarksopen}{#1}%
3563 }

```

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.

```

3564 \let\Hy@bookmarksdepth\c@tocdepth
3565 \define@key{Hyp}{bookmarksdepth}[]{%
3566   \begingroup
3567   \edef\x{#1}%
3568   \ifx\x\empty
3569     \global\let\Hy@bookmarksdepth\c@tocdepth
3570   \else
3571     \@ifundefined{toclevel@\x}{%
3572       \@onelevel@sanitize\x
3573       \edef\y{\expandafter\@car\x\@nil}%
3574       \ifcase 0\expandafter\ifx\y-1\fi
3575         \expandafter\ifnum\expandafter'\y>47 %
3576         \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
3577       \Hy@Warning{Unknown document division name (\x)}%
3578     \else
3579       \setbox\z@=\hbox{%
3580         \count@=\x
3581         \xdef\Hy@bookmarksdepth{\the\count@}%
3582       }%
3583     \fi
3584   }{%
3585     \setbox\z@=\hbox{%
3586       \count@=\csname toclevel@\x\endcsname
3587       \xdef\Hy@bookmarksdepth{\the\count@}%
3588     }%
3589   }%
3590 \fi
3591 \endgroup
3592 }

```

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

```

3593 \define@key{Hyp}{bookmarksopenlevel}{%
3594   \def\@bookmarksopenlevel{#1}%
3595 }
3596 \def\@bookmarksopenlevel{\maxdimen}
3597 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3598 \define@key{Hyp}{bookmarkstype}{%
3599   \def\Hy@bookmarkstype{#1}%
3600 }
3601 \def\Hy@bookmarkstype{toc}

```

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

```

3602 \define@key{Hyp}{bookmarksnumbered}[true]{%
3603   \Hy@boolkey{bookmarksnumbered}{#1}%
3604 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3605 \define@key{Hyp}{CJKbookmarks}[true]{%
3606   \Hy@boolkey{CJKbookmarks}{#1}%
3607 }

3608 \def\Hy@temp#1{%
3609   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3610 }
3611 \def\Hy@@temp#1#2#3{%
3612   \define@key{Hyp}{#2color}{%
3613     \HyColor@HyperrefColor{##1}#1%
3614   }%
3615   \def#1{#3}%
3616 }
3617 \Hy@temp{link}{red}
3618 \Hy@temp{anchor}{black}
3619 \Hy@temp{cite}{green}
3620 \Hy@temp{file}{cyan}
3621 \Hy@temp{url}{magenta}
3622 \Hy@temp{menu}{red}
3623 \Hy@temp{run}{\@filecolor}
3624 \define@key{Hyp}{pagecolor}{%
3625   \Hy@WarningPageColor
3626 }
3627 \def\Hy@WarningPageColor{%
3628   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3629   \global\let\Hy@WarningPageColor\relax
3630 }
3631 \define@key{Hyp}{allcolors}{%
3632   \HyColor@HyperrefColor{#1}\@linkcolor
3633   \HyColor@HyperrefColor{#1}\@anchorcolor
3634   \HyColor@HyperrefColor{#1}\@citecolor
3635   \HyColor@HyperrefColor{#1}\@filecolor
3636   \HyColor@HyperrefColor{#1}\@urlcolor
3637   \HyColor@HyperrefColor{#1}\@menucolor
3638   \HyColor@HyperrefColor{#1}\@runcolor
3639 }

3640 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3641 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3642 \let\@baseurl\@empty
3643 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3644 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3645 \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.

```

3646 \let\@pdfpagetransition\relax
3647 \define@key{Hyp}{pdfpagetransition}{%
3648   \def\@pdfpagetransition{#1}%
3649 }

```

`\@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.

```

3650 \let\@pdfpageduration\relax
3651 \define@key{Hyp}{pdfpageduration}{%
3652   \def\@pdfpageduration{#1}%
3653   \Hy@Match\@pdfpageduration{%
3654     ^([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3655   }{%
3656     \Hy@Warning{%
3657       Invalid value '\@pdfpageduration'\MessageBreak
3658       of option 'pdfpageduration'\MessageBreak
3659       is replaced by an empty value%
3660     }%
3661     \let\@pdfpageduration\ltx@empty
3662   }%
3663 }

```

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.

```

3664 \newif\ifHy@useHidKey
3665 \Hy@useHidKeyfalse
3666 \define@key{Hyp}{pdfpagehidden}[true]{%
3667   \Hy@boolkey{pdfpagehidden}{#1}%
3668   \ifHy@pdfpagehidden
3669     \global\Hy@useHidKeytrue
3670   \fi
3671 }

```

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).

```

3672 \def\Hy@ColorList{cite,file,link,menu,run,url}
3673 \@for\Hy@temp:=\Hy@ColorList\do{%
3674   \edef\Hy@temp{%
3675     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3676       \noexpand\HyColor@HyperrefBorderColor
3677       {##1}%
3678       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3679       {hyperref}%
3680       {\Hy@temp bordercolor}%
3681     }%
3682   }%
3683   \Hy@temp
3684 }
3685 \define@key{Hyp}{pagebordercolor}{%
3686   \Hy@WarningPageBorderColor
3687 }
3688 \def\Hy@WarningPageBorderColor{%
3689   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3690   \global\let\Hy@WarningPageBorderColor\relax
3691 }
3692 \define@key{Hyp}{allbordercolors}{%

```

```

3693 \def\Hy@temp##1##2{%
3694   \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3695 }%
3696 \Hy@temp\@citebordercolor{cite}%
3697 \Hy@temp\@filebordercolor{file}%
3698 \Hy@temp\@linkbordercolor{link}%
3699 \Hy@temp\@menubordercolor{menu}%
3700 \Hy@temp\@runbordercolor{run}%
3701 \Hy@temp\@urlbordercolor{url}%
3702 }

3703 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3704 \Hy@DefNameKey{pdfhighlight}{%
3705   \do{/I}{Invert}%
3706   \do{/N}{None}%
3707   \do{/O}{Outline}%
3708   \do{/P}{Push}%
3709 }
3710 \define@key{Hyp}{pdfborder}{%
3711   \let\Hy@temp\@pdfborder
3712   \def\@pdfborder{#1}%
3713   \Hy@Match\@pdfborder{%
3714     ~\HyPat@NonNegativeReal/ %
3715     \HyPat@NonNegativeReal/ %
3716     \HyPat@NonNegativeReal/%
3717     ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*\])?%%
3718   }{}{%
3719     \Hy@Warning{%
3720       Invalid value '\@pdfborder'\MessageBreak
3721       for option 'pdfborder'.\MessageBreak
3722       Option setting is ignored%
3723     }%
3724     \let\@pdfborder\Hy@temp
3725   }%
3726 }
3727 \define@key{Hyp}{pdfborderstyle}{%
3728   \let\Hy@temp\@pdfborderstyle
3729   \def\@pdfborderstyle{#1}%
3730   \Hy@Match\@pdfborderstyle{%
3731     ~%
3732     ( */Type */Border%
3733     | */W +\HyPat@NonNegativeReal/%
3734     | */S */[SDBIU]%
3735     | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/))?)?}%
3736     )* *$%
3737   }{}{%
3738     \Hy@Warning{%
3739       Invalid value '\@pdfborderstyle'\MessageBreak
3740       for option 'pdfborderstyle'.\MessageBreak
3741       Option setting is ignored%
3742     }%
3743     \let\@pdfborderstyle\Hy@temp
3744   }%
3745 }
3746 \def\Hy@setpdfborder{%
3747   \ifx\@pdfborder\@empty
3748   \else
3749     /Border[\@pdfborder]%

```

```

3750 \fi
3751 \ifx\@pdfborderstyle\@empty
3752 \else
3753 /BS<<\@pdfborderstyle>>%
3754 \fi
3755 }
3756 \Hy@DefNameKey{pdfpagemode}{%
3757 \do{UseNone}{}%
3758 \do{UseOutlines}{}%
3759 \do{UseThumbs}{}%
3760 \do{FullScreen}{}%
3761 \do{UseOC}{PDF 1.5}%
3762 \do{UseAttachments}{PDF 1.6}%
3763 }
3764 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3765 \do{UseNone}{}%
3766 \do{UseOutlines}{}%
3767 \do{UseThumbs}{}%
3768 \do{FullScreen}{}%
3769 \do{UseOC}{PDF 1.5}%
3770 \do{UseAttachments}{PDF 1.6}%
3771 }
3772 \Hy@DefNameKey{pdfdirection}{%
3773 \do{L2R}{Left to right}%
3774 \do{R2L}{Right to left}%
3775 }
3776 \Hy@DefNameKey{pdfviewarea}{%
3777 \do{MediaBox}{}%
3778 \do{CropBox}{}%
3779 \do{BleedBox}{}%
3780 \do{TrimBox}{}%
3781 \do{ArtBox}{}%
3782 }
3783 \Hy@DefNameKey{pdfviewclip}{%
3784 \do{MediaBox}{}%
3785 \do{CropBox}{}%
3786 \do{BleedBox}{}%
3787 \do{TrimBox}{}%
3788 \do{ArtBox}{}%
3789 }
3790 \Hy@DefNameKey{pdfprintarea}{%
3791 \do{MediaBox}{}%
3792 \do{CropBox}{}%
3793 \do{BleedBox}{}%
3794 \do{TrimBox}{}%
3795 \do{ArtBox}{}%
3796 }
3797 \Hy@DefNameKey{pdfprintclip}{%
3798 \do{MediaBox}{}%
3799 \do{CropBox}{}%
3800 \do{BleedBox}{}%
3801 \do{TrimBox}{}%
3802 \do{ArtBox}{}%
3803 }
3804 \Hy@DefNameKey{pdfprintsampling}{%
3805 \do{AppDefault}{}%
3806 \do{None}{}%

```



```

3807 }
3808 \Hy@DefNameKey{pdfduplex}{%
3809   \do{Simplex}{}%
3810   \do{DuplexFlipShortEdge}{}%
3811   \do{DuplexFlipLongEdge}{}%
3812 }
3813 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3814   \do{true}{}%
3815   \do{false}{}%
3816 }
3817 \define@key{Hyp}{pdfprintpagerange}{%
3818   \def\@pdfprintpagerange{#1}%
3819 }
3820 \Hy@DefNameKey{pdfnumcopies}{%
3821   \do{2}{two copies}%
3822   \do{3}{three copies}%
3823   \do{4}{four copies}%
3824   \do{5}{five copies}%
3825 }
3826 \define@key{Hyp}{pdfusetitle}[true]{%
3827   \Hy@boolkey{pdfusetitle}{#1}%
3828 }
3829 \def\HyXeTeX@CheckUnicode{%
3830   \ifxetex
3831     \ifHy@unicode
3832     \else
3833       \Hy@WarningNoLine{%
3834         XeTeX driver only supports unicode.\MessageBreak
3835         Enabling option 'unicode'%
3836       }%
3837       \kvsetkeys{Hyp}{unicode}%
3838     \fi
3839   \else
3840     \let\HyXeTeX@CheckUnicode\relax
3841   \fi
3842 }
3843 \def\HyPsd@PrerenderUnicode#1{%
3844   \begingroup
3845     \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3846     \else
3847       \sbox0{%
3848         \let\GenericInfo\@gobbletwo
3849         \let\GenericWarning\@gobbletwo
3850         \let\GenericError\@gobblefour
3851         \PrerenderUnicode{#1}%
3852       }%
3853     \fi
3854   \endgroup
3855 }
3856 \define@key{Hyp}{pdftitle}{%
3857   \HyXeTeX@CheckUnicode
3858   \HyPsd@XeTeXBigCharstrue
3859   \HyPsd@PrerenderUnicode{#1}%
3860   \pdfstringdef\@pdftitle{#1}%
3861 }
3862 \define@key{Hyp}{pdfauthor}{%
3863   \HyXeTeX@CheckUnicode

```

```

3864 \HyPsd@XeTeXBigCharstrue
3865 \HyPsd@PrerenderUnicode{#1}%
3866 \pdfstringdef\@pdfauthor{#1}%
3867 }
3868 \define@key{Hyp}{pdfproducer}{%
3869 \HyXeTeX@CheckUnicode
3870 \HyPsd@XeTeXBigCharstrue
3871 \HyPsd@PrerenderUnicode{#1}%
3872 \pdfstringdef\@pdfproducer{#1}%
3873 \ifxetex
3874 \Hy@Warning{%
3875 pdfproducer: %
3876 xdvipdfmx will use its own setting\MessageBreak
3877 instead of the value given%
3878 }%
3879 \else
3880 \def\Hy@temp{hdvipdfm}%
3881 \ifx\Hy@driver\Hy@temp
3882 \Hy@Warning{%
3883 pdfproducer: %
3884 dvipdfm(x) will use its own setting\MessageBreak
3885 instead of the value given%
3886 }%
3887 \fi
3888 \fi
3889 }
3890 \define@key{Hyp}{pdfcreator}{%
3891 \HyXeTeX@CheckUnicode
3892 \HyPsd@XeTeXBigCharstrue
3893 \HyPsd@PrerenderUnicode{#1}%
3894 \pdfstringdef\@pdfcreator{#1}%
3895 }
3896 \define@key{Hyp}{pdfcreationdate}{%
3897 \begingroup
3898 \Hy@unicodedefalse
3899 \pdfstringdef\@pdfcreationdate{#1}%
3900 \endgroup
3901 }
3902 \define@key{Hyp}{pdfmoddate}{%
3903 \begingroup
3904 \Hy@unicodedefalse
3905 \pdfstringdef\@pdfmoddate{#1}%
3906 \endgroup
3907 }
3908 \define@key{Hyp}{pdfsubject}{%
3909 \HyXeTeX@CheckUnicode
3910 \HyPsd@XeTeXBigCharstrue
3911 \HyPsd@PrerenderUnicode{#1}%
3912 \pdfstringdef\@pdfsubject{#1}%
3913 }
3914 \define@key{Hyp}{pdfkeywords}{%
3915 \HyXeTeX@CheckUnicode
3916 \HyPsd@XeTeXBigCharstrue
3917 \HyPsd@PrerenderUnicode{#1}%
3918 \pdfstringdef\@pdfkeywords{#1}%
3919 }
3920 \define@key{Hyp}{pdftrapped}{%

```

```

3921 \lowercase{\edef\Hy@temp{#1}}%
3922 \ifx\Hy@temp\HyInfo@trapped@true
3923 \def\@pdftrapped{True}%
3924 \else
3925 \ifx\Hy@temp\HyInfo@trapped@false
3926 \def\@pdftrapped{False}%
3927 \else
3928 \ifx\Hy@temp\HyInfo@trapped@unknown
3929 \def\@pdftrapped{Unknown}%
3930 \else
3931 \ifx\Hy@temp\@empty
3932 \else
3933 \Hy@Warning{%
3934     Unsupported value '#1'\MessageBreak
3935     for option 'pdftrapped'%
3936 }%
3937 \fi
3938 \def\@pdftrapped{}%
3939 \fi
3940 \fi
3941 \fi
3942 }
3943 \def\HyInfo@trapped@true{true}
3944 \def\HyInfo@trapped@false{false}
3945 \def\HyInfo@trapped@unknown{unknown}
3946 \def\HyInfo@TrappedUnsupported{%
3947 \ifx\@pdftrapped\@empty
3948 \else
3949 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3950 \gdef\HyInfo@TrappedUnsupported{}%
3951 \fi
3952 }
3953 \define@key{Hyp}{pdfinfo}{%
3954 \kvsetkeys{pdfinfo}{#1}%
3955 }
3956 \def\Hy@temp#1{%
3957 \lowercase{\Hy@temp@A{#1}}{#1}%
3958 }
3959 \def\Hy@temp@A#1#2{%
3960 \define@key{pdfinfo}{#2}{%
3961 \hypersetup{pdf#1={##1}}%
3962 }%
3963 }
3964 \Hy@temp{Title}
3965 \Hy@temp{Author}
3966 \Hy@temp{Keywords}
3967 \Hy@temp{Subject}
3968 \Hy@temp{Creator}
3969 \Hy@temp{Producer}
3970 \Hy@temp{CreationDate}
3971 \Hy@temp{ModDate}
3972 \Hy@temp{Trapped}
3973 \newif\ifHyInfo@AddonUnsupported
3974 \kv@set@family@handler{pdfinfo}{%
3975 \HyInfo@AddonHandler{#1}{#2}%
3976 }
3977 \let\HyInfo@do\relax

```

```

3978 \def\HyInfo@AddonHandler#1#2{%
3979   \ifx\kv@value\relax
3980     \Hy@Warning{%
3981       Option 'pdfinfo': ignoring key '\kv@key' without value%
3982     }%
3983   \else
3984     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3985     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3986     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3987     \ifHyInfo@AddonUnsupported
3988       \Hy@Warning{%
3989         This driver does not support additional\MessageBreak
3990         information entries, therefore\MessageBreak
3991         '\kv@key' is ignored%
3992       }%
3993     \else
3994       \define@key{pdfinfo}{\HyInfo@Key}{%
3995         \HyXeTeX@CheckUnicode
3996         \HyPsd@XeTeXBigCharstrue
3997         \HyPsd@PrerenderUnicode{##1}%
3998         \pdfstringdef\HyInfo@Value{##1}%
3999         \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
4000           \HyInfo@Value
4001       }%
4002     \edef\HyInfo@AddonList{%
4003       \HyInfo@AddonList
4004       \HyInfo@do{\HyInfo@Key}%
4005     }%
4006     \kv@parse@normalized{%
4007       \HyInfo@Key={##2}%
4008     }{%
4009       \kv@processor@default{pdfinfo}%
4010     }%
4011   \fi
4012 \else
4013   \kv@parse@normalized{%
4014     \HyInfo@Key={##2}%
4015   }{%
4016     \kv@processor@default{pdfinfo}%
4017   }%
4018 \fi
4019 \fi
4020 }
4021 \def\HyInfo@GenerateAddons{%
4022   \ifHyInfo@AddonUnsupported
4023     \def\HyInfo@Addons{%
4024       \else
4025         \begingroup
4026         \toks@{%
4027           \def\HyInfo@do##1{%
4028             \EdefEscapeName\HyInfo@Key{##1}%
4029             \edef\x{%
4030               \toks@{%
4031                 \the\toks@
4032                 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
4033               }%
4034             }%

```

```

4035     \x
4036   }%
4037   \HyInfo@AddonList
4038   \edef\x{\endgroup
4039     \def\noexpand\HyInfo@Addons{\the\toks@}%
4040   }%
4041   \x
4042 \fi
4043 }
4044 \let\HyInfo@AddonList\ltx@empty
4045 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
4046 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
4047 \let\setpdflinkmargin\gobble
4048 \def\calculate@pdfview#1 #2\\{%
4049   \def\@pdfview{#1}%
4050   \ifx\\#2\\%
4051     \def\@pdfviewparams{-32768}%
4052   \else
4053     \def\@pdfviewparams{ #2}%
4054   \fi
4055 }
4056 \begingroup\expandafter\expandafter\expandafter\endgroup
4057 \expandafter\ifx\csname numexpr\endcsname\relax
4058   \def\Hy@number#1{%
4059     \expandafter\@firstofone\expandafter{\number#1}%
4060   }%
4061 \else
4062   \def\Hy@number#1{%
4063     \the\numexpr#1\relax
4064   }%
4065 \fi
4066 \define@key{Hyp}{pdfstartpage}{\%
4067   \ifx\\#1\\%
4068     \let\@pdfstartpage\ltx@empty
4069   \else
4070     \edef\@pdfstartpage{\Hy@number{#1}}%
4071   \fi
4072 }%
4073 \define@key{Hyp}{pdfstartview}{\%
4074   \ifx\\#1\\%
4075     \let\@pdfstartview\ltx@empty
4076   \else
4077     \hypercalcbpdef\@pdfstartview{/#1}%
4078   \fi
4079 }
4080 \def\HyPat@NonNegativeReal/{\%
4081   \ *([0-9]+\.[0-9]*| [0-9]*\.[0-9]+) *%
4082 }
4083 \define@key{Hyp}{pdfremotestartview}{\%
4084   \ifx\\#1\\%
4085     \def\@pdfremotestartview{/Fit}%
4086   \else
4087     \hypercalcbpdef\@pdfremotestartview{#1}%
4088     \edef\@pdfremotestartview{\@pdfremotestartview}%
4089     \Hy@Match\@pdfremotestartview{%
4090       ^{XYZ} -?(null|\HyPat@NonNegativeReal/) %
4091       -?(null|\HyPat@NonNegativeReal/) %

```

```

4092      (null|\HyPat@NonNegativeReal/)|%
4093      Fit(|B|)%
4094      (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
4095      R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
4096      \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
4097      ))$%
4098      }{}{%
4099      \Hy@Warning{%
4100      Invalid value '\@pdfremotestartview'\MessageBreak
4101      of 'pdfremotestartview'\MessageBreak
4102      is replaced by 'Fit'%
4103      }%
4104      \let\@pdfremotestartview\@empty
4105      }%
4106      \ifx\@pdfremotestartview\@empty
4107      \def\@pdfremotestartview{/Fit}%
4108      \else
4109      \edef\@pdfremotestartview{/ \@pdfremotestartview}%
4110      \fi
4111      \fi
4112      }
4113      \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
4114      \define@key{Hyp}{pdftoolbar}[true]{%
4115      \Hy@boolkey{pdftoolbar}{#1}%
4116      }
4117      \define@key{Hyp}{pdfmenubar}[true]{%
4118      \Hy@boolkey{pdfmenubar}{#1}%
4119      }
4120      \define@key{Hyp}{pdfwindowui}[true]{%
4121      \Hy@boolkey{pdfwindowui}{#1}%
4122      }
4123      \define@key{Hyp}{pdffitwindow}[true]{%
4124      \Hy@boolkey{pdffitwindow}{#1}%
4125      }
4126      \define@key{Hyp}{pdfcenterwindow}[true]{%
4127      \Hy@boolkey{pdfcenterwindow}{#1}%
4128      }
4129      \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
4130      \Hy@boolkey{pdfdisplaydoctitle}{#1}%
4131      }
4132      \define@key{Hyp}{pdfa}[true]{%
4133      \Hy@boolkey{pdfa}{#1}%
4134      }
4135      \define@key{Hyp}{pdfnewwindow}[true]{%
4136      \def\Hy@temp{#1}%
4137      \ifx\Hy@temp\@empty
4138      \Hy@pdfnewwindowsetfalse
4139      \else
4140      \Hy@pdfnewwindowsettrue
4141      \Hy@boolkey{pdfnewwindow}{#1}%
4142      \fi
4143      }
4144      \def\Hy@SetNewWindow{%
4145      \ifHy@pdfnewwindowset
4146      /NewWindow %
4147      \ifHy@pdfnewwindow true\else false\fi
4148      \fi

```

```

4149 }
4150 \Hy@DefNameKey{pdfpagelayout}{%
4151   \do{SinglePage}{}%
4152   \do{OneColumn}{}%
4153   \do{TwoColumnLeft}{}%
4154   \do{TwoColumnRight}{}%
4155   \do{TwoPageLeft}{PDF 1.5}%
4156   \do{TwoPageRight}{PDF 1.5}%
4157 }
4158 \define@key{Hyp}{pdflang}{%
4159   \def\@pdflang{#1}%
4160 }
4161 \define@key{Hyp}{pdfpagelabels}[true]{%
4162   \Hy@boolkey{pdfpagelabels}{#1}%
4163 }
4164 \define@key{Hyp}{pdfescapeform}[true]{%
4165   \Hy@boolkey{pdfescapeform}{#1}%
4166 }

```

Default values:

```

4167 \def\@linkbordercolor{1 0 0}
4168 \def\@urlbordercolor{0 1 1}
4169 \def\@menubordercolor{1 0 0}
4170 \def\@filebordercolor{0 .5 .5}
4171 \def\@runbordercolor{0 .7 .7}
4172 \def\@citebordercolor{0 1 0}
4173 \def\@pdfhighlight{/I}
4174 \let\@pdftitle\ltx@empty
4175 \let\@pdfauthor\ltx@empty
4176 \let\@pdfproducer\relax
4177 \def\@pdfcreator{LaTeX with hyperref package}
4178 \let\@pdfcreationdate\ltx@empty
4179 \let\@pdfmoddate\ltx@empty
4180 \let\@pdfsubject\ltx@empty
4181 \let\@pdfkeywords\ltx@empty
4182 \let\@pdftrapped\ltx@empty
4183 \let\@pdfpagescrop\ltx@empty
4184 \def\@pdfstartview{/Fit}
4185 \def\@pdfremotestartview{/Fit}
4186 \def\@pdfstartpage{1}
4187 \let\@pdfprintpagerange\ltx@empty
4188 \let\@pdflang\ltx@empty
4189 \let\PDF@SetupDoc\@empty
4190 \let\PDF@FinishDoc\@empty
4191 \let\phantomsection\@empty
4192 \let\special@paper\@empty
4193 \def\HyperDestNameFilter#1{#1}
4194 \Hy@AtBeginDocument{%
4195   \begingroup
4196     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4197     \dimen@=\x\relax
4198     \ifdim\dimen@>\z@
4199       \else
4200         \dimen@=11in\relax
4201         \Hy@WarningNoLine{%
4202           Height of page (\expandafter\string\x) %
4203           is invalid (\the\x),\MessageBreak
4204           using 11in%

```

```

4205 }%
4206 \fi
4207 \dimen@=0.99626401\dimen@
4208 \xdef\Hy@pageheight{\strip@pt\dimen@}%
4209 \endgroup
4210 }
4211 \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.

```

4212 \let\hyper@normalise\ExecuteOptions
4213 \let\ExecuteOptions\hypersetup
4214 \Hy@RestoreCatcodes
4215 \InputIfFileExists{hyperref.cfg}{-}{-}
4216 \Hy@SetCatcodes
4217 \let\ExecuteOptions\hyper@normalise
4218 \ifx\Hy@MaybeStopNow\relax
4219 \else
4220 \Hy@stoppedearlytrue
4221 \expandafter\Hy@MaybeStopNow
4222 \fi
4223 \Hy@stoppedearlyfalse

```

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.

```

4224 \SetupKeyvalOptions{family=Hyp}
4225 \DeclareLocalOptions{%
4226   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4227 }

```

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

```

4228 \@ifpackageloaded{tex4ht}{%
4229   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
4230   \PassOptionsToPackage{tex4ht}{hyperref}%
4231 }%
4232 }{-}

4233 \let\ReadBookmarks\relax
4234 \ProcessKeyvalOptions{Hyp}

```

After processing options.

## 15.1 Package `xspace` support

```

4235 \def\Hy@xspace@end{}
4236 \ltx@ifundefined{xspaceaddexceptions}{-}%
4237 \Hy@AtBeginDocument{%
4238   \ltx@ifundefined{xspaceaddexceptions}{-}%
4239 }{-}%
4240 \def\Hy@xspace@end{%
4241   \ltx@gobble{end for xspace}%
4242 }%
4243 \xspaceaddexceptions{%
4244   \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4245 }%
4246 }%
4247 }%
4248 }{-}%

```



```

4249 \def\Hy@xspace@end{%
4250   \ltx@gobble{end for xspace}%
4251 }%
4252 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4253 }

```

## 15.2 Option draft

```

4254 \Hy@AtBeginDocument{%
4255   \ifHy@draft
4256     \let\hyper@@anchor\@gobble
4257     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4258     \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4259     \def\hyper@anchorend{\Hy@xspace@end}%
4260     \let\hyper@linkstart\@gobbletwo
4261     \def\hyper@linkend{\Hy@xspace@end}%
4262     \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4263     \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4264     \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4265     \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4266     \let\PDF@SetupDoc\@empty
4267     \let\PDF@FinishDoc\@empty
4268     \let\@fifthoffive\@secondoftwo
4269     \let\@secondoffive\@secondoftwo
4270     \let\ReadBookmarks\relax
4271     \let\WriteBookmarks\relax
4272     \Hy@WarningNoLine{Draft mode on}%
4273   \fi
4274   \Hy@DisableOption{draft}%
4275   \Hy@DisableOption{nolinks}%
4276   \Hy@DisableOption{final}%
4277 }

```

## 15.3 PDF/A

```

4278 \Hy@DisableOption{pdfa}
4279 \ifHy@pdfa
4280   \kvsetkeys{Hyp}{pdfversion=1.4}%
4281   \def\Hy@Acrobatmenu#1#2{%
4282     \leavevmode
4283     \begingroup
4284     \edef\x{#1}%
4285     \@onelevel@sanitize\x
4286     \ifx\x\Hy@NextPage
4287       \let\y=Y%
4288     \else
4289       \ifx\x\Hy@PrevPage
4290         \let\y=Y%
4291       \else
4292         \ifx\x\Hy@FirstPage
4293           \let\y=Y%
4294         \else
4295           \ifx\x\Hy@LastPage
4296             \let\y=Y%
4297           \else
4298             \let\y=N%
4299           \fi
4300         \fi
4301       \fi

```

```

4302 \fi
4303 \expandafter\endgroup
4304 \ifx\y Y%
4305 \else
4306 \Hy@Error{%
4307 PDF/A: Named action ‘#1’ is not permitted%
4308 }\@ehc
4309 {#2}%
4310 \expandafter\@gobble
4311 \fi
4312 }%
4313 \def\Hy@temp#1{%
4314 \expandafter\def\csname Hy@#1\endcsname{#1}%
4315 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4316 }%
4317 \Hy@temp{NextPage}%
4318 \Hy@temp{PrevPage}%
4319 \Hy@temp{FirstPage}%
4320 \Hy@temp{LastPage}%
4321 \else
4322 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4323 \fi

```

## 15.4 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.

```

4324 \Hy@nextfalse
4325 \ltx@ifundefined{spanish@sh@}{\Hy@nexttrue}
4326 \ltx@ifundefined{galician@sh@}{\Hy@nexttrue}
4327 \ltx@ifundefined{estonian@sh@}{\Hy@nexttrue}
4328 \ifHy@next
4329 \let\texttilde\~%
4330 \fi

4331 \def\Hy@wrapper@babel#1#2{%
4332 \begingroup
4333 \Hy@safe@activetrue
4334 \set@display@protect
4335 \edef\x{#2}%
4336 \@onelevel@sanitize\x
4337 \toks@{#1}%
4338 \edef\x{\endgroup\the\toks@{\x}}%
4339 \x
4340 }

4341 \def\Hy@WrapperDef#1{%
4342 \begingroup
4343 \escapechar=\m@ne
4344 \xdef\Hy@gtemp{%
4345 \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4346 }%
4347 \endgroup
4348 \edef#1{%
4349 \noexpand\Hy@wrapper@babel
4350 \expandafter\noexpand\Hy@gtemp
4351 }%
4352 \expandafter\def\Hy@gtemp

```

```

4353 }
4354 \ifHy@hyperfigures
4355 \Hy@Info{Hyper figures ON}%
4356 \else
4357 \Hy@Info{Hyper figures OFF}%
4358 \fi
4359 \ifHy@nesting
4360 \Hy@Info{Link nesting ON}%
4361 \else
4362 \Hy@Info{Link nesting OFF}%
4363 \fi
4364 \ifHy@hyperindex
4365 \Hy@Info{Hyper index ON}%
4366 \else
4367 \Hy@Info{Hyper index OFF}%
4368 \fi
4369 \ifHy@plainpages
4370 \Hy@Info{Plain pages ON}%
4371 \else
4372 \Hy@Info{Plain pages OFF}%
4373 \fi
4374 \ifHy@backref
4375 \Hy@Info{Backreferencing ON}%
4376 \else
4377 \Hy@Info{Backreferencing OFF}%
4378 \fi
4379 \ifHy@typexml
4380 \Hy@AtEndOfPackage{%
4381 \RequirePackage{color}%
4382 \RequirePackage{nameref}[2012/07/28]%
4383 }%
4384 \fi
4385 \Hy@DisableOption{typexml}
4386 \ifHy@implicit
4387 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4388 \else
4389 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4390 \def\MaybeStopEarly{%
4391 \Hy@Message{Stopped early}%
4392 \Hy@AtBeginDocument{%
4393 \PDF@FinishDoc
4394 \gdef\PDF@FinishDoc{}}%
4395 }%
4396 \endinput
4397 }%
4398 \Hy@AtBeginDocument{%
4399 \let\autoref\ref
4400 \let\autopageref\pageref
4401 \ifx\@pdfpagemode\@empty
4402 \gdef\@pdfpagemode{UseNone}%
4403 \fi
4404 \global\Hy@backreffalse
4405 }%
4406 \Hy@AtEndOfPackage{%
4407 \global\let\ReadBookmarks\relax
4408 \global\let\WriteBookmarks\relax
4409 }%

```

```

4410 \fi
4411 \Hy@DisableOption{implicit}

```

#### 15.4.1 Driver loading

```

4412 \Hy@AtEndOfPackage{%
4413   \@ifpackageloaded{tex4ht}{%
4414     \def\Hy@driver{htex4ht}%
4415     \Hy@texhttrue
4416   }%

```

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.

```

4417   \ifx\Hy@driver\@empty
4418   \else
4419     \def\Hy@temp{hpdfTeX}%
4420     \ifpdf
4421       \ifx\Hy@driver\Hy@temp
4422       \else
4423         \Hy@WarningNoLine{%
4424           Wrong driver ‘\Hy@driver.def’;\MessageBreak
4425           pdfTeX is running in PDF mode.\MessageBreak
4426           Forcing driver ‘\Hy@temp.def’%
4427         }%
4428         \let\Hy@driver\Hy@temp
4429       \fi
4430     \else
4431       \ifx\Hy@driver\Hy@temp
4432       \Hy@WarningNoLine{%
4433         Wrong driver ‘\Hy@driver.def’;\MessageBreak
4434         pdfTeX is not running in PDF mode.\MessageBreak
4435         Using default driver%
4436       }%
4437       \let\Hy@driver\@empty
4438     \fi
4439   \fi
4440 \fi
4441 \ifHy@texht
4442 \else
4443   \ifx\Hy@driver\@empty
4444   \else
4445     \def\Hy@temp{hxetex}%
4446     \ifxetex
4447       \ifx\Hy@driver\Hy@temp
4448       \else
4449         \Hy@WarningNoLine{%
4450           Wrong driver ‘\Hy@driver.def’;\MessageBreak
4451           XeTeX is running.\MessageBreak
4452           Forcing driver ‘\Hy@temp.def’ for XeTeX%
4453         }%
4454         \let\Hy@driver\Hy@temp
4455       \fi
4456     \fi
4457   \fi
4458 \fi
4459 \ifx\Hy@driver\@empty
4460 \else
4461   \def\Hy@temp{hvtexhtm}%

```

```

4462 \ifvtexhtml
4463 \ifx\Hy@driver\Hy@temp
4464 \else
4465 \Hy@WarningNoLine{%
4466   Wrong driver '\Hy@driver.def';\MessageBreak
4467   VTeX is running in HTML mode.\MessageBreak
4468   Forcing driver '\Hy@temp.def'%
4469 }%
4470 \let\Hy@driver\Hy@temp
4471 \fi
4472 \else
4473 \ifx\Hy@driver\Hy@temp
4474 \Hy@WarningNoLine{%
4475   Wrong driver '\Hy@driver.def';\MessageBreak
4476   VTeX is not running in HTML mode.\MessageBreak
4477   Using default driver%
4478 }%
4479 \let\Hy@driver\@empty
4480 \fi
4481 \fi
4482 \fi

```

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

```

4483 \def\HyOpt@DriverType{%
4484 \ifx\Hy@driver\@empty
4485 \def\HyOpt@DriverType{ (autodetected)}%
4486 \providecommand*\Hy@defaultdriver{\hypertex}%
4487 \ifpdf
4488 \def\Hy@driver{hpdfTeX}%
4489 \else
4490 \ifxetex
4491 \def\Hy@driver{hxetex}%
4492 \else
4493 \ifvtexhtml
4494 \def\Hy@driver{hvtexhtm}%
4495 \def\MaybeStopEarly{%
4496 \Hy@Message{Stopped early}%
4497 \Hy@AtBeginDocument{%
4498 \PDF@FinishDoc
4499 \gdef\PDF@FinishDoc{}}%
4500 }%
4501 \endinput
4502 }%
4503 \else
4504 \ifvtexpdf
4505 \def\Hy@driver{hvtex}%
4506 \else
4507 \ifvtexps
4508 \def\Hy@driver{hvtex}%
4509 \else
4510 \ifx\HyOpt@DriverFallback\ltx@empty
4511 \let\Hy@driver\Hy@defaultdriver
4512 \def\HyOpt@DriverType{ (default)}%
4513 \else
4514 \begingroup
4515 \toks@{\expandafter{\HyOpt@DriverFallback}}%
4516 \edef\x{\endgroup
4517 \noexpand\kvsetkeys{Hyp}{\the\toks@}%

```

```

4518         }%
4519     \x
4520     \ifx\Hy@driver\ltx@empty
4521         \let\Hy@driver\Hy@defaultdriver
4522         \def\HyOpt@DriverType{ (default)}%
4523     \else
4524         \def\HyOpt@DriverType{ (fallback)}%
4525     \fi
4526 \fi
4527 \fi
4528 \fi
4529 \fi
4530 \fi
4531 \fi
4532 \ifx\Hy@driver\Hy@defaultdriver
4533     \def\Hy@temp{hdvwind}%
4534     \ifx\Hy@temp\Hy@driver
4535         \kvsetkeys{Hyp}{colorlinks}%
4536         \PassOptionsToPackage{dviwindo}{color}%
4537     \fi
4538 \fi
4539 \fi
4540 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4541 \chardef\Hy@VersionChecked=0 %
4542 \input{\Hy@driver.def}%
4543 \ifcase\Hy@VersionChecked
4544     \Hy@VersionCheck{\Hy@driver.def}%
4545 \fi
4546 \let\@unprocessedoptions\relax
4547 \Hy@RestoreCatcodes
4548 \Hy@DisableOption{tex4ht}%
4549 \Hy@DisableOption{pdftex}%
4550 \Hy@DisableOption{nativepdf}%
4551 \Hy@DisableOption{dvipdfm}%
4552 \Hy@DisableOption{dvipdfmx}%
4553 \Hy@DisableOption{dvipdfmx-outline-open}%
4554 \Hy@DisableOption{pdfmark}%
4555 \Hy@DisableOption{dvips}%
4556 \Hy@DisableOption{hypertex}%
4557 \Hy@DisableOption{vtex}%
4558 \Hy@DisableOption{vtexpdfmark}%
4559 \Hy@DisableOption{dviwindo}%
4560 \Hy@DisableOption{dvipsone}%
4561 \Hy@DisableOption{textures}%
4562 \Hy@DisableOption{latex2html}%
4563 \Hy@DisableOption{ps2pdf}%
4564 \Hy@DisableOption{xetex}%
4565 \Hy@DisableOption{pdfversion}%
4566 }

```

Support for open outlines is enabled for XeTeX  $\geq 0.9995$ . 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.

```

4567 \newif\ifHy@DvipdfmxOutlineOpen
4568 \ifxetex
4569     \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4570     \else
4571         \chardef\SpecialDvipdfmxOutlineOpen\@ne

```

```

4572 \Hy@DvipdfmxOutlineOpentru
4573 \fi
4574 \fi
4575 \begingroup\expandafter\expandafter\expandafter\endgroup
4576 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4577 \else
4578 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4579 \Hy@DvipdfmxOutlineOpentru
4580 \fi
4581 \fi

```

### 15.4.2 Bookmarks

```

4582 \def\WriteBookmarks{0}
4583 \def\@bookmarkopenstatus#1{%
4584 \ifHy@bookmarksopen

```

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

```

4585 \ifnum#1<\expandafter\@firstofone\expandafter
4586 {\number\@bookmarkopenlevel} % explicit space
4587 \else
4588 -%
4589 \fi
4590 \else
4591 -%
4592 \fi
4593 }
4594 \ifHy@bookmarks
4595 \Hy@Info{Bookmarks ON}%
4596 \ifx\@pdfpagemode\@empty
4597 \def\@pdfpagemode{UseOutlines}%
4598 \fi
4599 \else
4600 \let\@bookmarkopenstatus\ltx@gobble
4601 \Hy@Info{Bookmarks OFF}%
4602 \Hy@AtEndOfPackage{%
4603 \global\let\ReadBookmarks\relax
4604 \global\let\WriteBookmarks\relax
4605 }%
4606 \ifx\@pdfpagemode\@empty
4607 \def\@pdfpagemode{UseNone}%
4608 \fi
4609 \fi
4610 \Hy@DisableOption{bookmarks}

```

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

```

4611 \def\Hy@CatcodeWrapper#1{%
4612 \let\Hy@endWrap\ltx@empty
4613 \def\TMP@EnsureCode##1##2{%
4614 \edef\Hy@endWrap{%
4615 \Hy@endWrap
4616 \catcode##1 \the\catcode##1\relax
4617 }%
4618 \catcode##1 ##2\relax
4619 }%
4620 \TMP@EnsureCode{10}{12}% ^^J
4621 \TMP@EnsureCode{33}{12}% !
4622 \TMP@EnsureCode{34}{12}% "
4623 \TMP@EnsureCode{36}{3}% $ (math)

```

```

4624 \TMP@EnsureCode{38}{4}% & (alignment)
4625 \TMP@EnsureCode{39}{12}% '
4626 \TMP@EnsureCode{40}{12}% (
4627 \TMP@EnsureCode{41}{12}% )
4628 \TMP@EnsureCode{42}{12}% *
4629 \TMP@EnsureCode{43}{12}% +
4630 \TMP@EnsureCode{44}{12}% ,
4631 \TMP@EnsureCode{45}{12}% -
4632 \TMP@EnsureCode{46}{12}% .
4633 \TMP@EnsureCode{47}{12}% /
4634 \TMP@EnsureCode{58}{12}% :
4635 \TMP@EnsureCode{59}{12}% ;
4636 \TMP@EnsureCode{60}{12}% <
4637 \TMP@EnsureCode{61}{12}% =
4638 \TMP@EnsureCode{62}{12}% >
4639 \TMP@EnsureCode{63}{12}% ?
4640 \TMP@EnsureCode{91}{12}% [
4641 \TMP@EnsureCode{93}{12}% ]
4642 \TMP@EnsureCode{94}{7}% ^ (superscript)
4643 \TMP@EnsureCode{95}{8}% _ (subscript)
4644 \TMP@EnsureCode{96}{12}% '
4645 \TMP@EnsureCode{124}{12}% |
4646 \TMP@EnsureCode{126}{13}% ~ (active)
4647 #1\relax
4648 \Hy@EndWrap
4649 }

```

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

```

4650 \Hy@AtBeginDocument{%
4651   \ifHy@ocgcolorlinks
4652     \kvsetkeys{Hyp}{colorlinks}%
4653     \ifHy@pdfa
4654       \Hy@Warning{%
4655         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4656         using 'colorlinks' instead of 'ocgcolorlinks'%
4657       }%
4658       \Hy@ocgcolorlinksfalse
4659     \fi
4660   \fi
4661   \ifHy@ocgcolorlinks
4662   \else
4663     \Hy@DisableOption{ocgcolorlinks}%
4664   \fi
4665   \ifHy@colorlinks
4666     \def\@pdfborder{0 0 0}%
4667     \let\@pdfborderstyle\@empty
4668     \ifHy@typexml
4669     \else
4670       \Hy@CatcodeWrapper{%
4671         \RequirePackage{color}%
4672       }%
4673     \fi
4674     \def\Hy@colorlink#1{%
4675       \begingroup
4676       \HyColor@UseColor#1%
4677     }%
4678     \def\Hy@endcolorlink{\endgroup}%

```



```

4679 \Hy@Info{Link coloring ON}%
4680 \else
4681 \ifHy@frenchlinks
4682 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4683 \def\Hy@endcolorlink{\endgroup}%
4684 \Hy@Info{French linking ON}%
4685 \else
for grouping consistency:
4686 \def\Hy@colorlink#1{\begingroup}%
4687 \def\Hy@endcolorlink{\endgroup}%
4688 \Hy@Info{Link coloring OFF}%
4689 \fi
4690 \fi
4691 \Hy@DisableOption{colorlinks}%
4692 \Hy@DisableOption{frenchlinks}%
4693 \ifHy@texht
4694 \long\def\@firstoffive#1#2#3#4#5{#1}%
4695 \long\def\@secondoffive#1#2#3#4#5{#2}%
4696 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4697 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4698 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4699 \providecommand*\@safe@activetrue{}%
4700 \providecommand*\@safe@activesfalse{}%
4701 \def\T@ref#1{%
4702 \Hy@safe@activetrue
4703 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4704 \Hy@safe@activesfalse
4705 }%
4706 \def\T@pageref#1{%
4707 \Hy@safe@activetrue
4708 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4709 \Hy@safe@activesfalse
4710 }%
4711 \else
4712 \ifHy@typexml
4713 \else
4714 \Hy@CatcodeWrapper{%
4715 \RequirePackage{nameref}[2012/07/28]%
4716 }%
4717 \fi
4718 \fi
4719 \DeclareRobustCommand\ref{%
4720 \@ifstar\@refstar\T@ref
4721 }%
4722 \DeclareRobustCommand\pageref{%
4723 \@ifstar\@pagerefstar\T@pageref
4724 }%
4725 % \ifclassloaded{memoir}{%
4726 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4727 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4728 % }%
4729 % }\ltx@secondoftwo
4730 % {%
4731 % \DeclareRobustCommand*{\nameref}{%
4732 % \@ifstar\@mem@titlerefno link\@mem@titleref
4733 % }%
4734 % }{%

```

```

4735 \DeclareRobustCommand*\nameref{%
4736   \@ifstar\@namerefstar\T@nameref
4737 }%
4738 %}%
4739 }
4740 \Hy@AtBeginDocument{%
4741   \ifHy@texht
4742   \else
4743     \Hy@CatcodeWrapper\ReadBookmarks
4744   \fi
4745 }
4746 \ifHy@backref
4747   \RequirePackage{backref}%
4748 \else
4749   \let\Hy@backout\@gobble
4750 \fi
4751 \Hy@DisableOption{backref}
4752 \Hy@DisableOption{pagebackref}
4753 \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`.

```

4754 \begingroup
4755   \endlinechar=-1 %
4756   \catcode'\^^A=14 %
4757   \catcode'\^^M\active
4758   \catcode'\%\active
4759   \catcode'\#\active
4760   \catcode'\_\active
4761   \catcode'\$\active
4762   \catcode'\&\active
4763   \gdef\hyper@normalise{^^A
4764     \begingroup
4765       \catcode'\^^M\active
4766       \def^^M{ }^^A
4767       \catcode'\%\active
4768       \let%\@percentchar
4769       \let%\@percentchar
4770       \catcode'\#\active
4771       \def#{\hyper@hash}^^A
4772       \def\#{\hyper@hash}^^A
4773       \@makeother\&^^A
4774       \edef&{\string&}^^A
4775       \edef\&{\string&}^^A
4776       \edef\textunderscore{\string_}^^A
4777       \let_\textunderscore
4778       \catcode'\_\active
4779       \let_\textunderscore
4780       \let~\hyper@tilde

```

```

4781 \let\-\hyper@tilde
4782 \let\textasciitilde\hyper@tilde
4783 \let\\\@backslashchar
4784 \edef$\string$}^^A
4785 \Hy@safe@activetrue
4786 \hyper@n@rmalise
4787 }^^A
4788 \catcode'\# =6 ^^A
4789 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4790 \gdef\hyper@n@rmalise#1#2{^^A
4791 \def\Hy@tempa{#2}^^A
4792 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4793 \ltx@ReturnAfterElseFi{^^A
4794 \hyper@@normalise{#1}^^A
4795 }^^A
4796 \else
4797 \ltx@ReturnAfterFi{^^A
4798 \hyper@@normalise{#1}{#2}^^A
4799 }^^A
4800 \fi
4801 }^^A
4802 \gdef\hyper@@normalise#1#2{^^A
4803 \edef\Hy@tempa{^^A
4804 \endgroup
4805 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4806 }^^A
4807 \Hy@tempa
4808 }^^A
4809 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4810 #1^^A
4811 \ifx\limits#2\limits
4812 \else
4813 \ltx@ReturnAfterFi{^^A
4814 \Hy@RemovePercentCr #2\@nil
4815 }^^A
4816 \fi
4817 }^^A
4818 \endgroup
4819 \providecommand*\hyper@chars{%
4820 \let\#\hyper@hash
4821 \let\%\@percentchar
4822 \Hy@safe@activetrue
4823 }

4824 \def\hyperlink#1#2{%
4825 \hyper@@link{#1}{#2}%
4826 }

4827 \def\Hy@VerboseLinkStart#1#2{%
4828 \ifHy@verbose
4829 \begingroup
4830 \Hy@safe@activetrue
4831 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4832 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4833 \xdef\Hy@VerboseGlobalTemp{%
4834 \Hy@VerboseGlobalTemp, %
4835 line \the\inputlineno
4836 }%
4837 \endgroup

```

```

4838 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4839 \@onelevel@sanitize\Hy@VerboseLinkInfo
4840 \fi
4841 }

4842 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4843 \def\Hy@VerboseLinkStop{%
4844   \ifHy@verbose
4845     \begingroup
4846     \edef\x{\endgroup
4847       \write\m@ne{%
4848         Package ‘hyperref’ Info: %
4849         End of reference \Hy@VerboseLinkInfo.%
4850       }%
4851     }%
4852   \x
4853 \fi
4854 }

4855 \def\Hy@VerboseAnchor#1{%
4856   \ifHy@verbose
4857     \begingroup
4858     \Hy@safe@activestrue
4859     \Hy@Info{Anchor ‘\HyperDestNameFilter{#1}’}%
4860   \endgroup
4861 \fi
4862 }

4863 \def\Hy@AllowHyphens{%
4864   \relax
4865   \ifhmode
4866     \penalty\@M
4867     \hskip\z@skip
4868   \fi
4869 }

4870 \DeclareRobustCommand*{\href}[1][]{%
4871   \begingroup
4872   \setkeys{href}{#1}%
4873   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4874 }
4875 \def\Hy@href#1{%
4876   \hyper@normalise\href@
4877 }
4878 \begingroup
4879 \catcode'\$=6 %
4880 \catcode'\#=12 %
4881 \gdef\href$1{\expandafter\href@split$1##\}%
4882 \gdef\href@split$1##$2##$3\\$4{%
4883   \hyper@@link{$1}{$2}{$3}{$4}%
4884   \endgroup
4885 }%
4886 \endgroup

```

Option ‘page’.

```

4887 \define@key{href}{page}{%
4888   \def\Hy@href@page{#1}%
4889 }
4890 \let\Hy@href@page\@empty
4891 \newcount\c@Hy@tempcnt

```

```

4892 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4893 \def\Hy@MakeRemoteAction{%
4894   \ifx\Hy@href@page\@empty
4895     \def\Hy@href@page{0}%
4896   \else
4897     \setcounter{Hy@tempcnt}{\Hy@href@page}%
4898     \ifnum\c@Hy@tempcnt<\@ne
4899       \Hy@Warning{%
4900         Invalid page number (\theHy@tempcnt)\MessageBreak
4901         for remote PDF file.\MessageBreak
4902         Using page 1%
4903       }%
4904     \def\Hy@href@page{0}%
4905   \else
4906     \global\advance\c@Hy@tempcnt\m@ne
4907     \edef\Hy@href@page{\theHy@tempcnt}%
4908   \fi
4909 \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.

```

4910 \ifx\Hy@href@nextactionraw\@empty
4911 \else
4912   \Hy@pdfnewwindowsettrue
4913   \Hy@pdfnewwindowtrue
4914 \fi
4915 }

```

Option ‘pdfremotestartview’.

```

4916 \define@key{href}{pdfremotestartview}{%
4917   \setkeys{Hyp}{pdfremotestartview={#1}}%
4918 }

```

Option ‘pdfnewwindow’.

```

4919 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4920 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4921 \newif\ifHy@href@ismap
4922 \define@key{href}{ismap}[true]{%
4923   \ltx@ifundefined{Hy@href@ismap#1}{%
4924     \Hy@Error{%
4925       Invalid value (#1) for key ‘ismap’.\MessageBreak
4926       Permitted values are ‘true’ or ‘false’.\MessageBreak
4927       Ignoring ‘ismap’%
4928     }\@ehc
4929   }{%
4930     \csname Hy@href@ismap#1\endcsname
4931   }%
4932 }

```

Option ‘nextactionraw’.

```

4933 \let\Hy@href@nextactionraw\@empty
4934 \define@key{href}{nextactionraw}{%
4935   \edef\Hy@href@nextactionraw{#1}%
4936   \ifx\Hy@href@nextactionraw\@empty
4937   \else
4938     \Hy@Match\Hy@href@nextactionraw{%
4939       ^(\HyPat@ObjRef/|<<.*[/S[/|. +>>|)%

```

```

4940    \[( ?\HyPat@ObjRef/|<<.*[/S[ /.+>>)+ ?])$%
4941    }{}{%
4942    \Hy@Warning{Invalid value for 'nextactionraw':\MessageBreak
4943    \Hy@href@nextactionraw\MessageBreak
4944    The action is discarded%
4945    }%
4946    }%
4947    \ifx\Hy@href@nextactionraw\@empty
4948    \else
4949    \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4950    \fi
4951    \fi
4952  }
4953 \def\HyPat@ObjRef/{.+}

```

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

```

4954 \RequirePackage{url}
4955 \let\HyOrg@url\url
4956 \def\Hurl{\begingroup \Url}
4957 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4958 \def\nolinkurl@#1{\Hurl{#1}}
4959 \DeclareRobustCommand*\url{\hyper@normalise:url@}
4960 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4961 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4962 \providecommand\hyper@image[2]{#2}
4963 \def\hypertarget#1#2{%
4964   \ifHy@nesting
4965     \hyper@@anchor{#1}{#2}%
4966   \else
4967     \hyper@@anchor{#1}{\relax}#2%
4968   \fi
4969 }

```

`\hyperref` is more complicated, as it includes the concept of a category of link, used to make the name. This is not really used in this package. `\hyperdef` sets up an anchor in the same way. They each have three parameters of category, linkname, and marked text, and `\hyperref` also has a first parameter of URL. If there is an optional first parameter to `\hyperdef`, it is the name of a  $\text{\LaTeX}$  label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

4970 \DeclareRobustCommand*\hyperref{%
4971   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4972 }
4973 \def\Hy@babelnormalise#1[#2]{%
4974   \begingroup
4975     \Hy@safe@activetrue
4976     \edef\Hy@tempa{%
4977       \endgroup
4978       \noexpand#1[#2]}%
4979   }%
4980   \Hy@tempa
4981 }
4982 \def\@hyperref{\hyper@normalise\@hyperref}
4983 \def\@hyperref#1#2#3{%
4984   \edef\ref@one{\ifx\\#2\\ \else#2.\fi#3}%
4985   \expandafter\tryhyper@link\ref@one\{#1}%
4986 }

```

```

4987 \def\tryhyper@link#1\#2{%
4988   \hyper@@link{#2}{#1}%
4989 }

4990 \def\hyperdef{\@ifnextchar[{\label@hyperdef}{\@hyperdef}}
4991 \def\@hyperdef#1#2#3{%, category, name, text
4992   \ifx\#1\%
4993     \def\Hy@AnchorName{#2}%
4994   \else
4995     \def\Hy@AnchorName{#1.#2}%
4996   \fi
4997   \ifHy@nesting
4998     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4999   \else
5000     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
5001   \fi
5002 }

```

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

```

5003 \def\label@hyperref[#1]{%
5004   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
5005 }%
5006 \def\label@@hyperref#1#2#3{%
5007   \ifx#1\relax
5008     \protect\G@refundefinedtrue
5009     \@latex@warning{%
5010       Hyper reference ‘#2’ on page \thepage \space undefined%
5011     }%
5012     \begingroup
5013       #3%
5014     \endgroup
5015   \else
5016     \hyper@@link{\expandafter\@fifthoffive#1}%
5017       {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5018   \fi
5019 }
5020 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5021                               % anchor text
5022   \@bsphack
5023   \ifx\#2\%
5024     \def\Hy@AnchorName{#3}%
5025   \else
5026     \def\Hy@AnchorName{#2.#3}%
5027   \fi
5028   \if@filesw
5029     \protected@write\@auxout{}{%
5030       \string\newlabel{#1}{\{ }\}{\{ }\Hy@AnchorName}{ }\}%
5031     }%
5032   \fi
5033   \@esphack
5034   \ifHy@nesting
5035     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5036   \else
5037     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5038   \fi
5039 }

```

## 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.

```

5040 \def\hyper@@link{\let\Hy@reserved@a\relax
5041 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5042 }
5043 \def\hyper@link@[#1]#2#3#4{%
5044 \begingroup
5045 \protected@edef\Hy@tempa{#2}%
5046 \Hy@safe@activestrue
5047 \edef\x{#3}%
5048 \ifx\Hy@tempa\@empty
5049 \toks0{\hyper@link{#1}}%
5050 \else
5051 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
5052 \fi
5053 \toks2{%
5054 \Hy@safe@activesfalse
5055 #4%
5056 }%
5057 \edef\Hy@tempa{\the\toks2}%
5058 \edef\x{\endgroup
5059 \ifx\Hy@tempa\@empty
5060 \noexpand\Hy@Warning{Suppressing empty link}%
5061 \else
5062 \the\toks0 \{ \x} {\the\toks2} %%
5063 \fi
5064 }%
5065 \x
5066 }

```

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.

```

5067 \def\hyper@readexternallink#1\{#2#3#4{%
5068 \begingroup
5069 \let\\\relax
5070 \expandafter\endgroup
5071 \expandafter\@hyper@@readexternallink#1\{#2}{#3}{#4}%
5072 }
5073 \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.



```

5074 \@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
5075 }

```

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

```

5076 \def\@pdftempwordfile{file}%
5077 \def\@pdftempwordrun{run}%
5078 \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:

```

5079 \ifx\#6\%
5080 \@hyper@linkfile file:#7\{#3}{#2}{#7}%
5081 \else
5082 \ifx\#4\%
5083 \@hyper@linkfile file:#7\{#3}{#2}{#7}%
5084 \else

```

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

```

5085 \def\@pdftempa{#4}%
5086 \ifx\@pdftempa\@pdftempwordfile
5087 \@hyper@linkfile#7\{#3}{#2}{#7}%
5088 \else

```

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

```

5089 \ifx\@pdftempa\@pdftempwordrun
5090 \ifHy@pdfa
5091 \Hy@Error{%
5092 PDF/A: Launch action is prohibited%
5093 }\@ehc
5094 \begingroup
5095 \leavevmode
5096 #2%
5097 \endgroup
5098 \else
5099 \@hyper@launch#7\{#3}{#2}%
5100 \fi
5101 \else

```

otherwise its a URL

```

5102 \hyper@linkurl{#3}{#7\ifx\#2\%else\hyper@hash#2\fi}%
5103 \fi
5104 \fi
5105 \fi
5106 \fi
5107 }

```

By default, turn run: into file:

```

5108 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
5109 \hyper@linkurl{#2}{%
5110 \Hy@linkfileprefix
5111 #1%
5112 \ifx\#3\%
5113 \else
5114 \hyper@hash
5115 #3%

```

```

5116 \fi
5117 }%
5118 }

```

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

```

5119 \def\@hyper@linkfile file:#1\|#2#3#4{%
5120   %file url,link string, name, original uri
5121   \filename@parse{#1}%
5122   \ifx\filename@ext\relax
5123     \edef\filename@ext{\XR@ext}%
5124   \fi
5125   \def\use@file{\filename@area\filename@base.\filename@ext}%
5126   \Hy@ifStringEndsWith\filename@ext\XR@ext{%
5127     \hyper@linkfile{#2}{\use@file}{#3}%
5128   }{%
5129     \ifx\@baseurl\@empty
5130       \hyper@linkurl{#2}{%
5131         #4\ifx\|#3\\\else\hyper@hash#3\fi
5132       }%
5133     \else
5134       \hyper@linkurl{#2}{\use@file\ifx\|#3\\\else\hyper@hash#3\fi}%
5135     \fi
5136   }%
5137 }

5138 \def\Hy@ifStringEndsWith#1#2{%
5139   \begingroup
5140   \edef\x{#1}%
5141   \@onelevel@sanitize\x
5142   \edef\x{.\x}%
5143   \edef\y{#2}%
5144   \@onelevel@sanitize\y
5145   \edef\y{.\y}%
5146   \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5147     \endgroup
5148     \ifx\relax##2\relax
5149       \expandafter\ltx@secondoftwo
5150     \else
5151       \expandafter\ltx@firstoftwo
5152     \fi
5153   }%
5154   \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5155 }

5156 \def\Hy@StringLocalhost{localhost}
5157 \@onelevel@sanitize\Hy@StringLocalhost
5158 \def\Hy@CleanupFile#1{%
5159   \edef#1{#1}%
5160   \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5161 }
5162 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5163   \begingroup
5164   \toks@{\endgroup}%
5165   \def\x{#1}%
5166   \ifx\x\@empty
5167     \def\x{#2}%
5168   \ifx\x\@empty
5169     \toks@{\endgroup\def#5{/#3}}%

```

```

5170 \else
5171 \onelevel@sanitize\x
5172 \ifx\x\Hy@StringLocalhost
5173 \toks@{\endgroup\def#5{/#3}}%
5174 \fi
5175 \fi
5176 \fi
5177 \the\toks@
5178 }

```

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.

```

5179 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5180 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5181 \ifx\#1\%
5182 #2\Hy@Warning{Ignoring empty anchor}%
5183 \else
5184 \def\anchor@spot{#2#3}%
5185 \let\put@me@back\@empty
5186 \ifx\relax#2\relax
5187 \else
5188 \ifHy@nesting
5189 \else
5190 \ifcat a\noexpand#2\relax
5191 \else
5192 \ifcat 0\noexpand#2 \relax
5193 \else
5194 % \typeout{Anchor start is not alphanumeric %
5195 % on input line\the\inputlineno%
5196 % }%
5197 \let\anchor@spot\@empty
5198 \def\put@me@back{#2#3}%
5199 \fi
5200 \fi
5201 \fi
5202 \fi
5203 \ifHy@activeanchor
5204 \anchor@spot
5205 \else
5206 \hyper@anchor{#1}%
5207 \fi
5208 \expandafter\put@me@back
5209 \fi
5210 \let\anchor@spot\@empty
5211 }
5212 \let\anchor@spot\ltx@empty

```

## 18 Option ‘destlabel’

```

5213 \ifHy@destlabel

```

```

\hyper@newdestlabel

```

```

5214 \def\hyper@newdestlabel#1#2{%
5215   \begingroup
5216     \Hy@safe@activetrue
5217     \edef\x{\endgroup
5218       \noexpand\@newl@bel{HyDL}{#1}{#2}%
5219     }%
5220   \x
5221 }%

\hyper@destlabel@hook

5222 \providecommand*\hyper@destlabel@hook{}%

\Hy@DestRename

5223 \newcommand*\Hy@DestRename}[2]{%
5224   \ltx@ifundefined{HyDL!#1}{%
5225     \begingroup
5226       \Hy@safe@activetrue
5227       \edef\dest@name{#1}%
5228       \edef\label@name{#2}%
5229       \hyper@destlabel@hook
5230       \Hy@IsNotEmpty{dest@name}{%
5231         \Hy@IsNotEmpty{label@name}{%
5232           \global\expandafter
5233             \let\csname HyDL!#1\endcsname\ltx@empty
5234           \if@files
5235             \protected@write\@auxout{}{%
5236               \string\hyper@newdestlabel
5237                 {#1}%
5238               {\label@name}%
5239             }%
5240           \fi
5241         }%
5242       }%
5243     \endgroup
5244   }{}%
5245 }%

\HyperDestRename

5246 \newcommand*\HyperDestRename}[2]{%
5247   \AtBeginDocument{%
5248     \Hy@DestRename{#1}{#2}%
5249   }%
5250 }%
5251 \AtBeginDocument{%
5252   \let\HyperDestRename\Hy@DestRename
5253 }%

\Hy@IsNotEmpty

5254 \def\Hy@IsNotEmpty#1{%
5255   \ltx@ifundefined{#1}\ltx@gobble{%
5256     \expandafter\ifx\csname#1\endcsname\ltx@empty
5257     \expandafter\ltx@gobble
5258   \else
5259     \expandafter\ltx@firstofone
5260   \fi
5261 }%
5262 }%

```

```

5263 \ltx@GlobalAppendToMacro\label@hook{%
5264   \HyperDestRename\@currentHref\label@name
5265 }%

\HyperDestLabelReplace
5266 \def\HyperDestLabelReplace#1{%
5267   \ltx@ifundefined{HyDL@#1}{%
5268     #1%
5269   }{%
5270     \csname HyDL@#1\endcsname
5271   }%
5272 }%

\HyperDestNameFilter
5273 \let\HyperDestNameFilter\HyperDestLabelReplace
5274 \else

\hyper@newdestlabel
5275 \let\hyper@newdestlabel\ltx@gobbletwo

\HyperDestLabelReplace
5276 \let\HyperDestLabelReplace\ltx@firstofone

\HyperDestRename
@gobbletwo
5277 \fi
5278 \Hy@DisableOption{destlabel}

Provide a dummy default definition of \hyper@newdestlabel inside the .aux
files.
5279 \AddLineBeginAux{%
5280   \string\providecommand\string\hyper@newdestlabel[2]{}%
5281 }

```

## 19 Compatibility with the *L<sup>A</sup>T<sub>E</sub>X2html* package

Map our macro names on to Nikos', so that documents prepared for that system will work without change.

Note, however, that the whole complicated structure for segmenting documents is not supported; it is assumed that the user will load `html.sty` first, and then `hyperref.sty`, so that the definitions in `html.sty` take effect, and are then overridden in a few circumstances by this package.

```

5282 \let\htmladdimg\hyperimage
5283 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5284 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5285 \def\htmlref#1#2{% anchor text, label
5286   \label@hyperref[{#2}]{#1}%
5287 }

```

This is really too much. The L<sup>A</sup>T<sub>E</sub>X2html package defines its own `\hyperref` command, with a different syntax. Was this always here? Its weird, anyway. We interpret it in the ‘printed’ way, since we are about fidelity to the page.

```

5288 \def\@@latextohtmlX{%
5289   \let\hhyperref\hyperref
5290   \def\hyperref##1##2##3##4{% anchor text for HTML
5291     % text to print before label in print
5292     % label
5293     % post-label text in print
5294     ##2\ref{##4}##3%
5295   }%
5296 }
```

## 20 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.

### 20.1 Field flags

The field flags are organized in a bit set.

```

5297 \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

```

5298 \def\HyField@NewFlag#1#2{%
5299   \lowercase{\HyField@NewOption{#2}}%
5300   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5301 }
```

`\HyField@NewFlagOnly`

```

5302 \def\HyField@NewFlagOnly#1#2{%
5303   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5304 }
```

`\HyField@NewOption` #1: option name

```

5305 \def\HyField@NewOption#1{%
5306   \expandafter\newif\csname ifFld@#1\endcsname
5307   \define@key{Field}{#1}[true]{%
5308     \lowercase{\Field@boolkey{##1}}{#1}%
5309   }%
5310 }
```

`\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

```
5311 \def\HyField@NewBitsetFlag#1#2#3#4{%
5312   \begingroup
5313     \count@=#4\relax
5314     \advance\count@\m@ne
5315     \def\x##1{%
5316       \endgroup
5317       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5318       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5319         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5320           (\number#4) #2%
5321         }%
5322       \else
5323         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5324           \csname HyField@#3@#1\endcsname
5325           /#2%
5326         }%
5327       \fi
5328     }%
5329   \expandafter\x\expandafter{\the\count@}%
5330 }
```

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

```
5331 \def\HyField@UseFlag#1#2{%
5332   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5333 }
```

\HyField@@UseFlag

```
5334 \def\HyField@@UseFlag#1#2{%
5335   \bitsetSetValue{HyField@#2}{%
5336     \csname HyField@#2@#1\endcsname
5337   }{%
5338     \csname ifFld@#1\endcsname 1\else 0\fi
5339   }%
5340 }
```

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

```
5341 \def\HyField@SetFlag#1#2{%
5342   \lowercase{\HyField@@SetFlag{#2}}{#1}%
5343 }
```

\HyField@@SetFlag

```
5344 \def\HyField@@SetFlag#1#2{%
5345   \bitsetSetValue{HyField@#2}{%
5346     \csname HyField@#2@#1\endcsname
5347   }{1}%
5348 }
```

\HyField@PrintFlags

```
5349 \def\HyField@PrintFlags#1#2{%
5350   \ifHy@verbose
5351     \begingroup
5352     \let\Hy@temp\@empty
5353     \let\MessageBreak\relax
```

```

5354 \expandafter \@for \expandafter \x \expandafter : \expandafter = %
5355 \bitsetGetSetBitList{HyField@#1}\do{%
5356 \edef\Hy@temp{%
5357 \Hy@temp
5358 \csname HyField@#1@\x\endcsname\MessageBreak
5359 }%
5360 }%
5361 \edef\x{\endgroup
5362 \noexpand\Hy@Info{%
5363 Field flags: %
5364 \expandafter\ifx \@car#1\@nil S\else/\fi
5365 #1 %
5366 \bitsetGetDec{HyField@#1} %
5367 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5368 \Hy@temp
5369 for #2%
5370 }%
5371 }\x
5372 \fi
5373 }

```

### 20.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5374 \HyField@NewFlag{Ff}{ReadOnly}{1}
5375 \HyField@NewFlag{Ff}{Required}{2}
5376 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5377 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5378 \HyField@NewFlag{Ff}{Radio}{16}
5379 \HyField@NewFlag{Ff}{Pushbutton}{17}
5380 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5381 \HyField@NewFlag{Ff}{Multiline}{13}
5382 \HyField@NewFlag{Ff}{Password}{14}
5383 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5384 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5385 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5386 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5387 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5388 \HyField@NewFlag{Ff}{Combo}{18}
5389 \HyField@NewFlag{Ff}{Edit}{19}
5390 \HyField@NewFlag{Ff}{Sort}{20}
5391 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5392 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5393 \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.

```

5394 \newif\ifFld@popdown
5395 \define@key{Field}{popdown}[true]{%
5396 \lowercase{\Field@boolkey{#1}}{popdown}%
5397 }

```



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.

```

5398 \HyField@NewFlag{F}{Invisible}{1}
5399 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5400 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5401 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5402 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5403 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5404 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5405 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5406 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7
5407 \ifHy@pdfa
5408   \def\HyField@PDFAFFlagWarning#1#2{%
5409     \Hy@Warning{%
5410       PDF/A: Annotation flag ‘#1’ must\MessageBreak
5411       be set to ‘#2’%
5412     }%
5413   }%
5414   \Fld@invisiblefalse
5415   \def\Fld@invisibletrue{%
5416     \HyField@PDFAFFlagWarning{invisible}{false}%
5417   }%
5418   \Fld@hiddenfalse
5419   \def\Fld@hiddenttrue{%
5420     \HyField@PDFAFFlagWarning{hidden}{false}%
5421   }%
5422   \Fld@printtrue
5423   \def\Fld@printfalse{%
5424     \HyField@PDFAFFlagWarning{print}{true}%
5425   }%
5426   \Fld@nozoomtrue
5427   \def\Fld@nozoomfalse{%
5428     \HyField@PDFAFFlagWarning{nozoom}{true}%
5429   }%
5430   \Fld@norotatetrue
5431   \def\Fld@norotatefalse{%
5432     \HyField@PDFAFFlagWarning{norotate}{true}%
5433   }%
5434   \Fld@noviewfalse
5435   \def\Fld@noviewtrue{%
5436     \HyField@PDFAFFlagWarning{noview}{false}%
5437   }%
5438 \fi

```

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

```

5439 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5440 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5441 \HyField@NewFlag{Submit}{GetMethod}{4}
5442 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5443 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5444 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5445 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5446 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}

```

```

5447 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5448 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5449 \HyField@NewFlag{Submit}{ExclFKey}{12}
5450 \HyField@NewFlag{Submit}{EmbedForm}{14}

5451 \define@key{Field}{export}{%
5452   \lowercase{\def\Hy@temp{#1}}%
5453   \@ifundefined{Fld@export@\Hy@temp}{%
5454     \@onelevel@sanitize\Hy@temp
5455     \Hy@Error{%
5456       Unknown export format '\Hy@temp'.\MessageBreak
5457       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5458     }\@ehc
5459   }{%
5460     \let\Fld@export\Hy@temp
5461   }%
5462 }
5463 \def\Fld@export{fdf}
5464 \@namedef{Fld@export@fdf}{0}%
5465 \@namedef{Fld@export@html}{1}%
5466 \@namedef{Fld@export@xfdf}{2}%
5467 \@namedef{Fld@export@pdf}{3}%

```

### 20.1.2 Set submit flags

\HyField@FlagsSubmit

```

5468 \def\HyField@FlagsSubmit{%
5469   \bitsetReset{HyField@Submit}%
5470   \ifcase\@nameuse{Fld@export@\Fld@export} %
5471     % FDF
5472     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5473     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5474     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5475     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5476     \HyField@UseFlag{Submit}{CanonicalFormat}%
5477     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5478     \HyField@UseFlag{Submit}{ExclFKey}%
5479     \HyField@UseFlag{Submit}{EmbedForm}%
5480   \or % HTML
5481     \HyField@SetFlag{Submit}{ExportFormat}%
5482     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5483     \HyField@UseFlag{Submit}{GetMethod}%
5484     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5485     \HyField@UseFlag{Submit}{CanonicalFormat}%
5486   \or % XFDF
5487     \HyField@SetFlag{Submit}{XFDF}%
5488     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5489     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5490     \HyField@UseFlag{Submit}{CanonicalFormat}%
5491   \or % PDF
5492     \HyField@SetFlag{Submit}{SubmitPDF}%
5493     \HyField@UseFlag{Submit}{GetMethod}%
5494   \fi
5495   \HyField@PrintFlags{Submit}{submit button field}%
5496   \bitsetIsEmpty{HyField@Submit}{%
5497     \let\Fld@submitflags\ltx@empty
5498   }{%
5499     \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%

```

```

5500 }%
5501 }

```

### 20.1.3 Set annot flags in fields

`\HyField@FlagsAnnot`

```

5502 \def\HyField@FlagsAnnot#1{%
5503   \bitsetReset{HyField@F}%
5504   \HyField@UseFlag{F}{Invisible}%
5505   \HyField@UseFlag{F}{Hidden}%
5506   \HyField@UseFlag{F}{Print}%
5507   \HyField@UseFlag{F}{NoZoom}%
5508   \HyField@UseFlag{F}{NoRotate}%
5509   \HyField@UseFlag{F}{NoView}%
5510   \HyField@UseFlag{F}{Locked}%
5511   \HyField@UseFlag{F}{ToggleNoView}%
5512   \HyField@UseFlag{F}{LockedContents}%
5513   \HyField@PrintFlags{F}{#1}%
5514   \bitsetIsEmpty{HyField@F}{%
5515     \let\Fld@annotflags\ltx@empty
5516   }{%
5517     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
5518   }%
5519 }

```

### 20.1.4 Pushbutton field

`\HyField@FlagsPushButton`

```

5520 \def\HyField@FlagsPushButton{%
5521   \HyField@FlagsAnnot{push button field}%
5522   \bitsetReset{HyField@Ff}%
5523   \HyField@UseFlag{Ff}{ReadOnly}%
5524   \HyField@UseFlag{Ff}{Required}%
5525   \HyField@UseFlag{Ff}{NoExport}%
5526   \HyField@SetFlag{Ff}{Pushbutton}%
5527   \HyField@PrintFlags{Ff}{push button field}%
5528   \bitsetIsEmpty{HyField@Ff}{%
5529     \let\Fld@flags\ltx@empty
5530   }{%
5531     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5532   }%
5533 }

```

### 20.1.5 Check box field

`\HyField@FlagsCheckBox`

```

5534 \def\HyField@FlagsCheckBox{%
5535   \HyField@FlagsAnnot{check box field}%
5536   \bitsetReset{HyField@Ff}%
5537   \HyField@UseFlag{Ff}{ReadOnly}%
5538   \HyField@UseFlag{Ff}{Required}%
5539   \HyField@UseFlag{Ff}{NoExport}%
5540   \HyField@PrintFlags{Ff}{check box field}%
5541   \bitsetIsEmpty{HyField@Ff}{%
5542     \let\Fld@flags\ltx@empty
5543   }{%
5544     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%

```

```

5545 }%
5546 }

```

### 20.1.6 Radio button field

\HyField@FlagsRadioButton

```

5547 \def\HyField@FlagsRadioButton{%
5548   \HyField@FlagsAnnot{radio button field}%
5549   \bitsetReset{HyField@Ff}%
5550   \HyField@UseFlag{Ff}{ReadOnly}%
5551   \HyField@UseFlag{Ff}{Required}%
5552   \HyField@UseFlag{Ff}{NoExport}%
5553   \HyField@UseFlag{Ff}{NoToggleToOff}%
5554   \HyField@SetFlag{Ff}{Radio}%
5555   \HyField@UseFlag{Ff}{RadiosInUnison}%
5556   \HyField@PrintFlags{Ff}{radio button field}%
5557   \bitsetIsEmpty{HyField@Ff}{%
5558     \let\Fld@flags\ltx@empty
5559   }{%
5560     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5561   }%
5562 }

```

### 20.1.7 Text fields

\HyField@FlagsText

```

5563 \def\HyField@FlagsText{%
5564   \HyField@FlagsAnnot{text field}%
5565   \bitsetReset{HyField@Ff}%
5566   \HyField@UseFlag{Ff}{ReadOnly}%
5567   \HyField@UseFlag{Ff}{Required}%
5568   \HyField@UseFlag{Ff}{NoExport}%
5569   \HyField@UseFlag{Ff}{Multiline}%
5570   \HyField@UseFlag{Ff}{Password}%
5571   \HyField@UseFlag{Ff}{FileSelect}%
5572   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5573   \HyField@UseFlag{Ff}{DoNotScroll}%
5574   \ifFld@comb
5575     \ifcase0\ifFld@multiline
5576       \else\ifFld@password
5577       \else\ifFld@fileselect
5578       \else 1\fi\fi\fi\relax
5579     \Hy@Error{%
5580       Field option ‘comb’ cannot used together with\MessageBreak
5581       ‘multiline’, ‘password’, or ‘fileselect’%
5582     }\@ehc
5583   \else
5584     \HyField@UseFlag{Ff}{Comb}%
5585   \fi
5586 \fi
5587 \HyField@UseFlag{Ff}{RichText}%
5588 \HyField@PrintFlags{Ff}{text field}%
5589 \bitsetIsEmpty{HyField@Ff}{%
5590   \let\Fld@flags\ltx@empty
5591 }{%
5592   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5593 }%

```

5594 }

### 20.1.8 Choice fields

\HyField@FlagsChoice

```
5595 \def\HyField@FlagsChoice{%
5596   \HyField@FlagsAnnot{choice field}%
5597   \bitsetReset{HyField@Ff}%
5598   \HyField@UseFlag{Ff}{ReadOnly}%
5599   \HyField@UseFlag{Ff}{Required}%
5600   \HyField@UseFlag{Ff}{NoExport}%
5601   \HyField@UseFlag{Ff}{Combo}%
5602   \ifFld@combo
5603     \HyField@UseFlag{Ff}{Edit}%
5604   \fi
5605   \HyField@UseFlag{Ff}{Sort}%
5606   \HyField@UseFlag{Ff}{MultiSelect}%
5607   \ifFld@combo
5608     \ifFld@edit
5609       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5610     \fi
5611   \fi
5612   \HyField@UseFlag{Ff}{CommitOnSelChange}%
5613   \HyField@PrintFlags{Ff}{choice field}%
5614   \bitsetIsEmpty{HyField@Ff}{%
5615     \let\Fld@flags\ltx@empty
5616   }{%
5617     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5618   }%
5619 }
```

## 20.2 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.

```
5620 \def\HyField@PDFChoices#1{%
5621   \begingroup
5622   \global\let\Fld@choices\ltx@empty
5623   \let\HyTmp@optlist\ltx@empty
5624   \let\HyTmp@optitem\relax
5625   \count@=0 %
5626   \kv@parse{#1}{%
5627     \Hy@pdfstringdef\kv@key\kv@key
5628     \ifx\kv@value\relax
5629       \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5630         \xdef\Fld@choices{\Fld@choices(\kv@key)(\kv@key)}%
5631       \else
5632         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5633       \fi
5634     \else
5635       \Hy@pdfstringdef\kv@value\kv@value
5636       \xdef\Fld@choices{\Fld@choices(\kv@value)(\kv@key)}%
5637     \fi
5638   \edef\HyTmp@optlist{%
```

```

5639     \HyTmp@optlist
5640     \HyTmp@optitem{\the\count@}{\kv@key}0%
5641   }%
5642   \advance\count@ by 1 %
5643   \@gobbletwo
5644 }%
5645 \xdef\Fld@choices{/Opt{\Fld@choices}}%
5646 \ifFld@multiselect
5647   \HyField@@PDFChoices{DV}\Fld@default
5648   \HyField@@PDFChoices{V}\Fld@value
5649 \else
5650   \ifx\Fld@default\relax
5651   \else
5652     \pdfstringdef\Hy@gtemp\Fld@default
5653     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5654   \fi
5655   \ifx\Fld@value\relax
5656   \else
5657     \pdfstringdef\Hy@gtemp\Fld@value
5658     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5659   \fi
5660 \fi
5661 \endgroup
5662 }

```

\HyField@@PDFChoices

```

5663 \def\HyField@@PDFChoices#1#2{%
5664   \ifx#2\relax
5665   \else
5666     \count@=0 %
5667     \def\HyTmp@optitem##1##2##3{%
5668       \def\HyTmp@key{##2}%
5669       \ifx\HyTmp@key\Hy@gtemp
5670         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5671           \HyTmp@optlist
5672           \HyTmp@optitem{##1}{##2}1%
5673         }%
5674         \let\HyTmp@found=Y%
5675       \else
5676         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5677           \HyTmp@optlist
5678           \HyTmp@optitem{##1}{##2}##3%
5679         }%
5680       \fi
5681     }%
5682     \expandafter\comma@parse\expandafter{#2}{%
5683       \pdfstringdef\Hy@gtemp\comma@entry
5684       \let\HyTmp@found=N %
5685       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5686       \HyTmp@optlist
5687       \ifx\HyTmp@found Y%
5688         \advance\count@ by 1 %
5689       \else
5690         \@onelevel@sanitize\comma@entry
5691         \PackageWarning{hyperref}{%
5692           \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
5693           \MessageBreak
5694           it cannot be found in the choices%

```

```

5695     }%
5696     \fi
5697     \@gobble
5698 }%
5699 \def\HyTmp@optitem##1##2##3{%
5700     \ifnum##3=1 %
5701         (##2)%
5702     \fi
5703 }%
5704 \ifcase\count@
5705 \or
5706     \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5707 \else
5708     \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5709 \ifx#1V%
5710     \def\HyTmp@optitem##1##2##3{%
5711         \ifnum##3=1 %
5712             \@firstofone{ ##1}%
5713         \fi
5714     }%
5715     \edef\HyTmp@optlist{\HyTmp@optlist}%
5716     \xdef\Fld@choices{%
5717         \Fld@choices
5718         /I[\expandafter\@firstofone\HyTmp@optlist]%
5719     }%
5720     \fi
5721 \fi
5722 \fi
5723 }

```

## 20.3 Forms

\HyField@SetKeys

```

5724 \def\HyField@SetKeys{%
5725     \kvsetkeys{Field}%
5726 }

5727 \newif\ifFld@checked
5728 \newif\ifFld@disabled
5729 \Fld@checkedfalse
5730 \Fld@disabledfalse
5731 \newcount\Fld@menulength
5732 \newdimen\Field@Width
5733 \newdimen\Fld@charsize
5734 \Fld@charsize=10\p@
5735 \def\Fld@maxlen{0}
5736 \def\Fld@align{0}
5737 \def\Fld@color{0 0 0 rg}
5738 \def\Fld@bcolor{1 1 1}
5739 \def\Fld@bordercolor{1 0 0}
5740 \def\Fld@bordersep{1\p@}
5741 \def\Fld@borderwidth{1}
5742 \def\Fld@borderstyle{S}
5743 \def\Fld@cbsymbol{4}
5744 \def\Fld@radiosymbol{H}
5745 \def\Fld@rotation{0}
5746 \def\Fld@Form{\@ifnextchar[{\@Form}{\@Form[]}}

```

```

5747 \def\endForm{\@endForm}
5748 \newif\ifForm@html
5749 \Form@htmlfalse
5750 \def\Form@boolkey#1#2{%
5751   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5752 }
5753 \define@key{Form}{action}{%
5754   \hyper@normalise\Hy@DefFormAction{#1}%
5755 }
5756 \def\Hy@DefFormAction{\def\Form@action}
5757 \def\enc@@html{html}
5758 \define@key{Form}{encoding}{%
5759   \def\Hy@tempa{#1}%
5760   \ifx\Hy@tempa\enc@@html
5761     \Form@htmltrue
5762     \def\Fld@export{html}%
5763   \else
5764     \Hy@Warning{%
5765       Form 'encoding' key with \MessageBreak
5766       unknown value '#1'%
5767     }%
5768     \Form@htmlfalse
5769   \fi
5770 }
5771 \define@key{Form}{method}{%
5772   \lowercase{\def\Hy@temp{#1}}%
5773   \@ifundefined{Form@method@\Hy@temp}{%
5774     \@onelevel@sanitize\Hy@temp
5775     \Hy@Error{%
5776       Unknown method '\Hy@temp'.\MessageBreak
5777       Known values are 'post' and 'get'%
5778     }\@ehc
5779   }{%
5780     \let\Form@method\Hy@temp
5781     \ifcase\@nameuse{Form@method@\Hy@temp} %
5782       \Fld@getmethodfalse
5783     \else
5784       \Fld@getmethodtrue
5785     \fi
5786   }%
5787 }
5788 \def\Form@method{}
5789 \@namedef{Form@method@post}{0}
5790 \@namedef{Form@method@get}{1}
5791 \newif\ifHyField@NeedAppearances
5792 \def\HyField@NeedAppearancesfalse{%
5793   \global\let\ifHyField@NeedAppearances\iffalse
5794 }
5795 \def\HyField@NeedAppearancetrue{%
5796   \global\let\ifHyField@NeedAppearances\iftrue
5797 }
5798 \HyField@NeedAppearancetrue
5799 \define@key{Form}{NeedAppearances}[true]{%
5800   \edef\Hy@tempa{#1}%
5801   \ifx\Hy@tempa\Hy@true
5802     \HyField@NeedAppearancetrue
5803   \else

```



```

5804 \ifx\Hy@tempa\Hy@false
5805 \HyField@NeedAppearancesfalse
5806 \else
5807 \Hy@Error{%
5808 Unexpected value '\Hy@tempa'\MessageBreak
5809 of option 'NeedAppearances' instead of\MessageBreak
5810 'true' or 'false'%
5811 }\@ehc
5812 \fi
5813 \fi
5814 }
5815 \def\Field@boolkey#1#2{%
5816 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5817 }
5818 \ifHy@texht
5819 \newtoks\Field@toks
5820 \Field@toks={ }%
5821 \def\Field@addtoks#1#2{%
5822 \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5823 \@processme
5824 }%
5825 \else
5826 \def\Hy@WarnHTMLFieldOption#1{%
5827 \Hy@Warning{%
5828 HTML field option '#1'\MessageBreak
5829 is ignored%
5830 }%
5831 }%
5832 \fi
5833 \def\Fld@checkequals#1=#2=#3\\{%
5834 \def\@currDisplay{#1}%
5835 \ifx\\#2\\%
5836 \def\@currValue{#1}%
5837 \else
5838 \def\@currValue{#2}%
5839 \fi
5840 }
5841 \define@key{Field}{loc}{%
5842 \def\Fld@loc{#1}%
5843 }
5844 \define@key{Field}{checked}[true]{%
5845 \lowercase{\Field@boolkey{#1}}{checked}%
5846 }
5847 \define@key{Field}{disabled}[true]{%
5848 \lowercase{\Field@boolkey{#1}}{disabled}%
5849 }
5850 \ifHy@texht
5851 \define@key{Field}{accesskey}{%
5852 \Field@addtoks{accesskey}{#1}%
5853 }%
5854 \define@key{Field}{tabkey}{%
5855 \Field@addtoks{tabkey}{#1}%
5856 }%
5857 \else
5858 \define@key{Field}{accesskey}{%
5859 \Hy@WarnHTMLFieldOption{accesskey}%
5860 }%

```

```

5861 \define@key{Field}{tabkey}{%
5862   \Hy@WarnHTMLFieldOption{tabkey}%
5863 }%
5864 \fi
5865 \define@key{Field}{name}{%
5866   \def\Fld@name{#1}%
5867 }
5868 \let\Fld@altname\relax
5869 \define@key{Field}{altname}{%
5870   \def\Fld@altname{#1}%
5871 }
5872 \let\Fld@mappingname\relax
5873 \define@key{Field}{mappingname}{%
5874   \def\Fld@mappingname{#1}%
5875 }
5876 \define@key{Field}{width}{%
5877   \def\Fld@width{#1}%
5878   \Field@Width#1\setbox0=\hbox{m}%
5879 }
5880 \define@key{Field}{maxlen}{%
5881   \def\Fld@maxlen{#1}%
5882 }
5883 \define@key{Field}{menulength}{%
5884   \Fld@menulength=#1\relax
5885 }
5886 \define@key{Field}{height}{%
5887   \def\Fld@height{#1}%
5888 }
5889 \define@key{Field}{charsize}{%
5890   \setlength{\Fld@charsize}{#1}%
5891 }
5892 \define@key{Field}{borderwidth}{%
5893   \Hy@defaultbp\Fld@borderwidth{#1}%
5894 }
5895 \def\Hy@defaultbp#1#2{%
5896   \begingroup
5897   \afterassignment\Hy@defaultbpAux
5898   \dimen@=#2bp\relax{#1}{#2}%
5899 }
5900 \begingroup\expandafter\expandafter\expandafter\endgroup
5901 \expandafter\ifx\csname dimexpr\endcsname\relax
5902   \def\Hy@defaultbpAux#1\relax#2#3{%
5903     \ifx!#1!%
5904       \endgroup
5905       \def#2{#3}%
5906     \else
5907       \dimen@=.99626\dimen@
5908       \edef\x{\endgroup
5909         \def\noexpand#2{%
5910           \strip@pt\dimen@
5911         }%
5912       }\x
5913     \fi
5914   }%
5915 \else
5916   \def\Hy@defaultbpAux#1\relax#2#3{%
5917     \ifx!#1!%

```

```

5918 \endgroup
5919 \def#2{#3}%
5920 \else
5921 \edef\x{\endgroup
5922 \def\noexpand#2{%
5923 \strip@pt\dimexpr\dimen@*800/803\relax
5924 }%
5925 }\x
5926 \fi
5927 }%
5928 \fi
5929 \define@key{Field}{borderstyle}{%
5930 \let\Hy@temp\Fld@borderstyle
5931 \def\Fld@borderstyle{#1}%
5932 \Hy@Match\Fld@borderstyle{%
5933 ~[SDBIU]$%
5934 }{ }{%
5935 \Hy@Warning{%
5936 Invalid value '\@pdfborderstyle'\MessageBreak
5937 for option 'pdfborderstyle'. Valid values:\MessageBreak
5938 \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
5939 \space\space I (Inset), U (Underline)\MessageBreak
5940 Option setting is ignored%
5941 }%
5942 \let\Fld@borderstyle\Hy@temp
5943 }%
5944 }
5945 \define@key{Field}{bordersep}{%
5946 \def\Fld@bordersep{#1}%
5947 }
5948 \define@key{Field}{default}{%
5949 \def\Fld@default{#1}%
5950 }
5951 \define@key{Field}{align}{%
5952 \def\Fld@align{#1}%
5953 }
5954 \define@key{Field}{value}{%
5955 \def\Fld@value{#1}%
5956 }
5957 \define@key{Field}{checkboxsymbol}{%
5958 \Fld@DingDef\Fld@cbsymbol{#1}%
5959 }
5960 \define@key{Field}{radiosymbol}{%
5961 \Fld@DingDef\Fld@radiosymbol{#1}%
5962 }
5963 \def\Fld@DingDef#1#2{%
5964 \let\Fld@temp\ltx@empty
5965 \Fld@@DingDef#2\ding{ }\@nil
5966 \let#1\Fld@temp
5967 }
5968 \def\Fld@@DingDef#1\ding#2#3\@nil{%
5969 \expandafter\def\expandafter\Fld@temp\expandafter{%
5970 \Fld@temp
5971 #1%
5972 }%
5973 \ifx\#3\%
5974 \expandafter\@gobble

```

```

5975 \else
5976 \begingroup
5977 \lccode'0=#2\relax
5978 \lowercase{\endgroup
5979 \expandafter\def\expandafter\Fld@temp\expandafter{%
5980 \Fld@temp
5981 0%
5982 }%
5983 }%
5984 \expandafter\@firstofone
5985 \fi
5986 {%
5987 \Fld@@DingDef#3\@nil
5988 }%
5989 }

5990 \define@key{Field}{rotation}{%
5991 \def\Fld@rotation{#1}%
5992 }

5993 \define@key{Field}{backgroundcolor}{%
5994 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5995 }
5996 \define@key{Field}{bordercolor}{%
5997 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5998 }
5999 \define@key{Field}{color}{%
6000 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6001 }

6002 \let\Fld@onclick@code\ltx@empty
6003 \let\Fld@format@code\ltx@empty
6004 \let\Fld@validate@code\ltx@empty
6005 \let\Fld@calculate@code\ltx@empty
6006 \let\Fld@keystroke@code\ltx@empty
6007 \let\Fld@onfocus@code\ltx@empty
6008 \let\Fld@onblur@code\ltx@empty
6009 \let\Fld@onmousedown@code\ltx@empty
6010 \let\Fld@onmouseup@code\ltx@empty
6011 \let\Fld@onenter@code\ltx@empty
6012 \let\Fld@onexit@code\ltx@empty
6013 \def\Hy@temp#1{%
6014 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6015 }
6016 \def\Hy@@temp#1#2{%
6017 \ifHy@pdfa
6018 \define@key{Field}{#2}{%
6019 \Hy@Error{%
6020 PDF/A: Additional action '#2' is prohibited%
6021 } \@ehc
6022 }%
6023 \else
6024 \define@key{Field}{#2}{%
6025 \def#1{##1}%
6026 }%
6027 \fi
6028 }
6029 \Hy@temp{keystroke}
6030 \Hy@temp{format}

```

```

6031 \Hy@temp{validate}
6032 \Hy@temp{calculate}
6033 \Hy@temp{onfocus}
6034 \Hy@temp{onblur}
6035 \Hy@temp{onenter}
6036 \Hy@temp{onexit}
6037 \ifHy@texht
6038   \def\Hy@temp#1{%
6039     \define@key{Field}{#1}{%
6040       \Field@addtoks{#1}{##1}%
6041     }%
6042   }%
6043 \else
6044   \def\Hy@temp#1{%
6045     \define@key{Field}{#1}{%
6046       \Hy@WarnHTMLFieldOption{#1}%
6047     }%
6048   }%
6049 \fi
6050 \Hy@temp{ondblclick}
6051 \Hy@temp{onmousedown}
6052 \Hy@temp{onmouseup}
6053 \Hy@temp{onmouseover}
6054 \Hy@temp{onmousemove}
6055 \Hy@temp{onmouseout}
6056 \Hy@temp{onkeydown}
6057 \Hy@temp{onkeyup}
6058 \Hy@temp{onselect}
6059 \Hy@temp{onchange}
6060 \Hy@temp{onkeypress}
6061 \ifHy@texht
6062   \define@key{Field}{onclick}{%
6063     \Field@addtoks{onclick}{#1}%
6064   }%
6065 \else
6066   \ifHy@pdfa
6067     \define@key{Field}{onclick}{%
6068       \Hy@Error{%
6069         PDF/A: Action 'onclick' is prohibited%
6070       }\@ehc
6071     }%
6072   \else
6073     \define@key{Field}{onclick}{%
6074       \def\Fld@onclick@code{#1}%
6075     }%
6076   \fi
6077 \fi
6078 \DeclareRobustCommand\TextField{%
6079   \@ifnextchar[{\@TextField}{\@TextField[]}%
6080 }
6081 \DeclareRobustCommand\ChoiceMenu{%
6082   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6083 }
6084 \DeclareRobustCommand\CheckBox{%
6085   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6086 }
6087 \DeclareRobustCommand\PushButton{%

```

```

6088 \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6089 }
6090 \DeclareRobustCommand\Gauge{%
6091 \ifnextchar[{\@Gauge}{\@Gauge[]}%
6092 }
6093 \DeclareRobustCommand\Submit{%
6094 \ifnextchar[{\@Submit}{\@Submit[]}%
6095 }
6096 \DeclareRobustCommand\Reset{%
6097 \ifnextchar[{\@Reset}{\@Reset[]}%
6098 }
6099 \def\LayoutTextField#1#2{% label, field
6100 #1 #2%
6101 }
6102 \def\LayoutChoiceField#1#2{% label, field
6103 #1 #2%
6104 }
6105 \def\LayoutCheckField#1#2{% label, field
6106 #1 #2%
6107 }
6108 \def\LayoutPushButtonField#1{% button
6109 #1%
6110 }
6111 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6112 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6113 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6114 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6115 \def\MakeButtonField#1{%
6116 \sbox0{%
6117 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6118 }%
6119 \@tempdima\ht0 %
6120 \advance\@tempdima by \Fld@borderwidth bp %
6121 \advance\@tempdima by \Fld@borderwidth bp %
6122 \ht0\@tempdima
6123 \@tempdima\dp0 %
6124 \advance\@tempdima by \Fld@borderwidth bp %
6125 \advance\@tempdima by \Fld@borderwidth bp %
6126 \dp0\@tempdima
6127 \box0\relax
6128 }
6129 \def\DefaultHeightofSubmit{14pt}
6130 \def\DefaultWidthofSubmit{2cm}
6131 \def\DefaultHeightofReset{14pt}
6132 \def\DefaultWidthofReset{2cm}
6133 \def\DefaultHeightofCheckBox{\baselineskip}
6134 \def\DefaultWidthofCheckBox{\baselineskip}
6135 \def\DefaultHeightofChoiceMenu{\baselineskip}
6136 \def\DefaultWidthofChoiceMenu{\baselineskip}
6137 \def\DefaultHeightofText{\baselineskip}
6138 \def\DefaultHeightofTextMultiline{4\baselineskip}
6139 \def\DefaultWidthofText{3cm}
6140 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6141 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6142 \def\DefaultOptionsofPushButton{print}
6143 \def\DefaultOptionsofCheckBox{print}
6144 \def\DefaultOptionsofText{print}

```

Default options for the types of `\ChoiceMenu`.

```
6145 \def\DefaultOptionsofListBox{print}
6146 \def\DefaultOptionsofComboBox{print,edit,sort}
6147 \def\DefaultOptionsofPopdownBox{print}
6148 \def\DefaultOptionsofRadio{print,notoggletooff}
```

## 21 Setup

```
6149 \ifHy@hyperfigures
6150 \Hy@Info{Hyper figures ON}%
6151 \else
6152 \Hy@Info{Hyper figures OFF}%
6153 \fi
6154 \ifHy@nesting
6155 \Hy@Info{Link nesting ON}%
6156 \else
6157 \Hy@Info{Link nesting OFF}%
6158 \fi
6159 \ifHy@hyperindex
6160 \Hy@Info{Hyper index ON}%
6161 \else
6162 \Hy@Info{Hyper index OFF}%
6163 \fi
6164 \ifHy@backref
6165 \Hy@Info{backreferencing ON}%
6166 \else
6167 \Hy@Info{backreferencing OFF}%
6168 \fi
6169 \ifHy@colorlinks
6170 \Hy@Info{Link coloring ON}%
6171 \else
6172 \Hy@Info{Link coloring OFF}%
6173 \fi
6174 \ifHy@ocgcolorlinks
6175 \Hy@Info{Link coloring with OCG ON}%
6176 \else
6177 \Hy@Info{Link coloring with OCG OFF}%
6178 \fi
6179 \ifHy@pdfa
6180 \Hy@Info{PDF/A mode ON}%
6181 \else
6182 \Hy@Info{PDF/A mode OFF}%
6183 \fi
```

## 22 Low-level utility macros

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

```
6184 \edef\hyper@hash{\string#}
6185 \edef\hyper@tilde{\string~}
6186 \edef\hyper@quote{\string"}
```

Support `\label` before `\begin{document}`.

```
6187 \def\@currentHref{Doc-Start}
6188 \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.

```

6189 \Hy@AtBeginDocument{%
6190   \Hy@pdfstringtrue
6191   \PDF@SetupDoc
6192   \let\PDF@SetupDoc\@empty
6193   \Hy@DisableOption{pdfpagescrop}%
6194   \Hy@DisableOption{pdfpagemode}%
6195   \Hy@DisableOption{pdfnonfullscreenpagemode}%
6196   \Hy@DisableOption{pdfdirection}%
6197   \Hy@DisableOption{pdfviewarea}%
6198   \Hy@DisableOption{pdfviewclip}%
6199   \Hy@DisableOption{pdfprintarea}%
6200   \Hy@DisableOption{pdfprintclip}%
6201   \Hy@DisableOption{pdfprintsclaling}%
6202   \Hy@DisableOption{pdfduplex}%
6203   \Hy@DisableOption{pdfpicktraybypdfsize}%
6204   \Hy@DisableOption{pdfprintpagerange}%
6205   \Hy@DisableOption{pdfnumcopies}%
6206   \Hy@DisableOption{pdfstartview}%
6207   \Hy@DisableOption{pdfstartpage}%
6208   \Hy@DisableOption{pdftoolbar}%
6209   \Hy@DisableOption{pdfmenubar}%
6210   \Hy@DisableOption{pdfwindowui}%
6211   \Hy@DisableOption{pdfitwindow}%
6212   \Hy@DisableOption{pdfcenterwindow}%
6213   \Hy@DisableOption{pdfdisplaydoctitle}%
6214   \Hy@DisableOption{pdfpagelayout}%
6215   \Hy@DisableOption{pdflang}%
6216   \Hy@DisableOption{baseurl}%
6217   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6218   \Hy@pdfstringfalse
6219 }

```

Ignore star from referencing macros:

```

6220 \LetLtxMacro\NoHy@OrgRef\ref
6221 \DeclareRobustCommand*{\ref}{%
6222   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6223 }
6224 \LetLtxMacro\NoHy@OrgPageRef\pageref
6225 \DeclareRobustCommand*{\pageref}{%
6226   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6227 }

```

## 23 Localized nullifying of package

Sometimes we just don't want the wretched package interfering with us. Define an environment we can put in manually, or include in a style file, which stops the hypertext functions doing anything. This is used, for instance, in the Elsevier classes, to stop `hyperref` playing havoc in the front matter.

```

6228 \def\NoHyper{%
6229   \def\hyper@link@{##1}##2##3##4{##4\Hy@xspace@end}%
6230   \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6231   \global\let\hyper@livelink\hyper@link
6232   \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6233   \let\hyper@anchor\ltx@gobble

```



```

6234 \let\hyper@anchorstart\ltx@gobble
6235 \def\hyper@anchorend{\Hy@xspace@end}%
6236 \let\hyper@linkstart\ltx@gobbletwo
6237 \def\hyper@linkend{\Hy@xspace@end}%
6238 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6239 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6240 \let\Hy@backout\@gobble
6241 }
6242 \def\stop@hyper{%
6243 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6244 \let\Hy@backout\@gobble
6245 \let\hyper@@anchor\ltx@gobble
6246 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6247 \let\hyper@anchor\ltx@gobble
6248 \let\hyper@anchorstart\ltx@gobble
6249 \def\hyper@anchorend{\Hy@xspace@end}%
6250 \let\hyper@linkstart\ltx@gobbletwo
6251 \def\hyper@linkend{\Hy@xspace@end}%
6252 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6253 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6254 }
6255 \def\endNoHyper{%
6256 \global\let\hyper@link\hyper@livelink
6257 }
6258 \end{package}

```

## 24 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:

```

6259 \*nohyperref
6260 \RequirePackage{letltxmacro}[2008/06/13]
6261 \let\hyper@@anchor\@gobble
6262 \def\hyper@link##1##2##3{##3}%
6263 \let\hyper@anchorstart\@gobble
6264 \let\hyper@anchorend\@empty
6265 \let\hyper@linkstart\@gobbletwo
6266 \let\hyper@linkend\@empty
6267 \def\hyper@linkurl##1##2{##1}%
6268 \def\hyper@linkfile##1##2##3{##1}%
6269 \def\hyper@link@[##1]##2##3{##3}%
6270 \let\PDF@SetupDoc\@empty
6271 \let\PDF@FinishDoc\@empty
6272 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6273 \def\Acrobatmenu#1##2{\leavevmode#2}
6274 \let\pdfstringdefDisableCommands\@gobbletwo
6275 \let\texorpdfstring\@firstoftwo
6276 \let\pdfbookmark\@undefined
6277 \newcommand\pdfbookmark[3][]{ }
6278 \let\phantomsection\@empty

```

```

6279 \let\hypersetup\@gobble
6280 \let\hyperbaseurl\@gobble
6281 \newcommand*{\href}[3][\#3]{
6282 \let\hyperdef\@gobbletwo
6283 \let\hyperlink\@gobble
6284 \let\hypertarget\@gobble
6285 \def\hyperref{%
6286 \ifnextchar\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6287 }
6288 \long\def\@gobbleopt[#1]{%
6289 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

6290 \LetLtxMacro\NoHy@OrgRef\ref
6291 \DeclareRobustCommand*{\ref}{%
6292 \ifstar\NoHy@OrgRef\NoHy@OrgRef
6293 }
6294 \LetLtxMacro\NoHy@OrgPageRef\pageref
6295 \DeclareRobustCommand*{\pageref}{%
6296 \ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6297 }
6298 \nohyperref

```

## 25 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}`

```

6299 \*package)
6300 \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.

```

6301 \if@filesw
6302 \ifHy@typexml
6303 \immediate\closeout\@mainaux
6304 \immediate\openout\@mainaux\jobname.aux\relax
6305 \immediate\write\@auxout{<relaxxml>\relax}%
6306 \fi
6307 \immediate\write\@auxout{%
6308 \string\providecommand\string\HyperFirstAtBeginDocument{%
6309 \string\AtBeginDocument}^^J%
6310 \string\HyperFirstAtBeginDocument{%
6311 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6312 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6313 \string\gdef\string\contentsline%
6314 \string#1\string#2\string#3\string#4{%
6315 \string\oldcontentsline%
6316 {\string#1}{\string#2}{\string#3}}^^J%
6317 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6318 \string\gdef\string\newlabel\string#1\string#2{%
6319 \string\newlabelxx{\string#1}\string#2}^^J%
6320 \string\gdef\string\newlabelxx%
6321 \string#1\string#2\string#3\string#4\string#5\string#6{%
6322 \string\oldnewlabel{\string#1}{\string#2}{\string#3}}^^J%

```

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

```

6323 \string\AtEndDocument{%
6324 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6325 \string\let\string\contentsline\string\oldcontentsline^^J%
6326 \string\let\string\newlabel\string\oldnewlabel^^J%
6327 \string\fi%
6328 }^^J%

```

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

```

6329 \string\fi%
6330 }^^J%
6331 \string\global\string\let\string\hyper@last\relax^^J%
6332 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6333 }%
6334 \fi
6335 \let\HyperFirstAtBeginDocument\ltx@firstofone

```

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

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

```

6336 \ifx\hyper@last\@undefined
6337 \def\@starttoc#1{%
6338 \begingroup
6339 \makeatletter
6340 \IfFileExists{\jobname.#1}{%
6341 \Hy@WarningNoLine{%
6342 old #1 file detected, not used; run LaTeX again%
6343 }%
6344 }{}%
6345 \if@filesw
6346 \expandafter\newwrite\csname tf@#1\endcsname
6347 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6348 \fi
6349 \@nobreakfalse
6350 \endgroup
6351 }%
6352 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{}{}{}}%
6353 \fi
6354 }

```

## 26 Title strings

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

```

6355 \ifHy@pdfusetitle
6356 \let\HyOrg@title\title
6357 \let\HyOrg@author\author
6358 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6359 \def\Hy@scanopttitle[#1]{%
6360 \gdef\Hy@title{#1}%
6361 \HyOrg@title[{#1}]%
6362 }%

```

```

6363 \def\Hy@scantitle#1{%
6364   \gdef\Hy@title{#1}%
6365   \HyOrg@title{#1}%
6366 }%
6367 \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6368 \def\Hy@scanoptauthor[#1]{%
6369   \gdef\Hy@author{#1}%
6370   \HyOrg@author{#1}%
6371 }%
6372 \def\Hy@scanauthor#1{%
6373   \gdef\Hy@author{#1}%
6374   \HyOrg@author{#1}%
6375 }%

```

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.

```

6376 \begingroup
6377   \def\process@me#1\@nil#2{%
6378     \expandafter\let\expandafter\x\csname @#2\endcsname
6379     \edef\y{\expandafter\strip@prefix\meaning\x}%
6380     \def\c##1#1##2\@nil{%
6381       \ifx\\##1\\%
6382         \else
6383           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6384             \expandafter{\x}%
6385         \fi
6386       }%
6387       \expandafter\c\y\relax#1\@nil
6388     }%
6389     \expandafter\process@me\string\@latex@\@nil{title}%
6390     \expandafter\process@me\string\@latex@\@nil{author}%
6391   \endgroup
6392 \fi
6393 \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.

```

6394 \def\Hy@UseMaketitleString#1{%
6395   \ltx@ifundefined{Hy@#1}{-}{%
6396     \begingroup
6397       \let\Hy@saved@hook\pdfstringdefPreHook
6398       \pdfstringdefDisableCommands{%
6399         \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6400         \let\newline\\%
6401       }%
6402       \expandafter\ifx\csname @pdf#1\endcsname\@empty
6403         \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6404           \csname Hy@#1\endcsname\@empty
6405         }%

```

```

6406 \fi
6407 \global\let\pdfstringdefPreHook\Hy@saved@hook
6408 \endgroup
6409 }%
6410 }
6411 \def\Hy@newline@title#1{ #1}
6412 \def\Hy@newline@author#1{, #1}
6413 \def\Hy@UseMaketitleInfos{%
6414 \Hy@UseMaketitleString{title}%
6415 \Hy@UseMaketitleString{author}%
6416 }

```

## 27 Page numbers

This stuff is done by Heiko Oberdiek.

## 28 Every page

```

6417 \RequirePackage{atbegshi}[2007/09/09]
6418 \let\Hy@EveryPageHook\ltx@empty
6419 \let\Hy@EveryPageBoxHook\ltx@empty
6420 \let\Hy@FirstPageHook\ltx@empty
6421 \AtBeginShipout{%
6422 \Hy@EveryPageHook
6423 \ifx\Hy@EveryPageBoxHook\ltx@empty
6424 \else
6425 \setbox\AtBeginShipoutBox=\vbox{%
6426 \offinterlineskip
6427 \Hy@EveryPageBoxHook
6428 \box\AtBeginShipoutBox
6429 }%
6430 \fi
6431 }
6432 \ltx@iffileloaded{pdfmark.def}{%
6433 \AtBeginShipoutFirst{%
6434 \Hy@FirstPageHook
6435 }%
6436 }{%
6437 \AtBeginShipout{%
6438 \Hy@FirstPageHook
6439 \global\let\Hy@FirstPageHook\ltx@empty
6440 }%
6441 }
6442 \g@addto@macro\Hy@FirstPageHook{%
6443 \PDF@FinishDoc
6444 \global\let\PDF@FinishDoc\ltx@empty
6445 }

```

### 28.1 PDF /PageLabels

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

```

6446 \ifHy@pdfpagelabels
6447 \begingroup\expandafter\expandafter\expandafter\endgroup
6448 \expandafter\ifx\csname thepage\endcsname\relax
6449 \Hy@pdfpagelabelsfalse
6450 \Hy@WarningNoLine{%

```

```

6451     Option 'pdfpagelabels' is turned off\MessageBreak
6452     because \string\thepage\space is undefined%
6453 }%
6454 \csname fi\endcsname
6455 \csname iffalse\expandafter\endcsname
6456 \fi

```

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

```

6457 \def\thispdfpagelabel#1{%
6458   \gdef\HyPL@thisLabel{#1}%
6459 }%
6460 \global\let\HyPL@thisLabel\relax

```

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

```

6461 \let\HyPL@Labels\ltx@empty

```

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

```

6462 \newcount\Hy@abspage
6463 \Hy@abspage=0 %

```

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

```

6464 \def\HyPL@LastType{init}%
6465 \def\HyPL@LastNumber{0}%
6466 \let\HyPL@LastPrefix\ltx@empty

```

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

```

6467 \def\HyPL@arabic{D}%
6468 \def\HyPL@Roman{R}%
6469 \def\HyPL@roman{r}%
6470 \def\HyPL@Alph{A}%
6471 \def\HyPL@alph{a}%

6472 \let\HyPL@SlidesSetPage\ltx@empty
6473 \ltx@ifclassloaded{slides}{%
6474   \def\HyPL@SlidesSetPage{%
6475     \advance\c@page\ltx@one
6476     \ifnum\value{page}>\ltx@one
6477       \protected@edef\HyPL@SlidesOptionalPage{%
6478         \Hy@SlidesFormatOptionalPage{\thepage}%
6479       }%
6480     \else
6481       \let\HyPL@SlidesOptionalPage\ltx@empty
6482     \fi
6483     \advance\c@page-\ltx@one
6484     \def\HyPL@page{%
6485       \csname the\Hy@SlidesPage\endcsname
6486       \HyPL@SlidesOptionalPage
6487     }%
6488   }%
6489 }{}%

```

`\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.

```

6490 \def\HyPL@EveryPage{%
6491   \begingroup

```

```

6492 \ifx\HyPL@thisLabel\relax
6493 \let\HyPL@page\thepage
6494 \HyPL@SlidesSetPage
6495 \else
6496 \let\HyPL@page\HyPL@thisLabel
6497 \global\let\HyPL@thisLabel\relax
6498 \fi
6499 \let\HyPL@Type\relax
6500 \ifnum\c@page>0 %
6501 \ifx\HyPL@SlidesSetPage\ltx@empty
6502 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6503 \fi
6504 \fi
6505 \let\Hy@temp Y%
6506 \ifx\HyPL@Type\HyPL@LastType
6507 \else
6508 \let\Hy@temp N%
6509 \fi
6510 \ifx\HyPL@Type\relax
6511 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6512 \else
6513 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6514 \fi
6515 \ifx\HyPL@Prefix\HyPL@LastPrefix
6516 \else
6517 \let\Hy@temp N%
6518 \fi
6519 \if Y\Hy@temp
6520 \advance\c@page by -1 %
6521 \ifnum\HyPL@LastNumber=\the\c@page\relax
6522 \else
6523 \let\Hy@temp N%
6524 \fi
6525 \Hy@StepCount\c@page
6526 \fi
6527 \if N\Hy@temp
6528 \ifx\HyPL@Type\relax
6529 \HyPL@storePageLabel{/P(\HyPL@Prefix)}%
6530 \else
6531 \HyPL@storePageLabel{%
6532 \ifx\HyPL@Prefix\@empty
6533 \else
6534 /P(\HyPL@Prefix)%
6535 \fi
6536 /S/\csname HyPL\HyPL@Type\endcsname
6537 \ifnum\the\c@page=1 %
6538 \else
6539 \space/St \the\c@page
6540 \fi
6541 }%
6542 \fi
6543 \fi
6544 \xdef\HyPL@LastNumber{\the\c@page}%
6545 \global\let\HyPL@LastType\HyPL@Type
6546 \global\let\HyPL@LastPrefix\HyPL@Prefix
6547 \endgroup
6548 \Hy@GlobalStepCount\Hy@abspage

```

6549 }%

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

```
6550 \def\HyPL@CheckThePage#1\@nil{%
6551   \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6552 }%
```

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

```
6553 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6554   \def\Hy@tempa{#4}%
6555   \def\Hy@tempb{\csname\endcsname\c@page}%
6556   \ifx\Hy@tempa\Hy@tempb
6557     \expandafter\ifx\csname HyPL#3\endcsname\relax
6558     \else
6559       \def\HyPL@Type{#3}%
6560       \def\HyPL@Prefix{#2}%
6561       \fi
6562     \else
6563       \begingroup
6564         \let\Hy@next\endgroup
6565         \let\HyPL@found\@undefined
6566         \def\arabic{\HyPL@Format{arabic}}%
6567         \def\Roman{\HyPL@Format{Roman}}%
6568         \def\roman{\HyPL@Format{roman}}%
6569         \def\Alph{\HyPL@Format{Alph}}%
6570         \def\alph{\HyPL@Format{alph}}%
6571         \protected@edef\Hy@temp{#1}%
6572         \ifx\HyPL@found\relax
6573           \toks@{\expandafter{\Hy@temp}}%
6574           \edef\Hy@next{\endgroup
6575             \noexpand\HyPL@@@CheckThePage\the\toks@
6576             \noexpand\HyPL@found\relax\noexpand\@nil
6577           }%
6578         \fi
6579       \Hy@next
6580     \fi
6581   }%
```

`\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`.

```
6582 \def\HyPL@Format#1#2{%
6583   \ifx\HyPL@found\@undefined
6584     \expandafter\ifx\csname c@#2\endcsname\c@page
6585       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6586     \else
6587       \expandafter\noexpand\csname#1\endcsname{#2}%
6588     \fi
6589   \else
6590     \expandafter\noexpand\csname#1\endcsname{#2}%
6591   \fi
6592 }%
```



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

```

6593 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6594   \def\Hy@tempa{#3}%
6595   \def\Hy@tempb{\HyPL@found\relax}%
6596   \ifx\Hy@tempa\Hy@tempb
6597     \def\HyPL@Type{#2}%
6598     \def\HyPL@Prefix{#1}%
6599   \fi
6600 }%
```

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

```

6601 \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`.

```

6602 \def\HyPL@Useless{0<</S/D>>}%
6603 \@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.

```

6604 \def\HyPL@SetPageLabels{%
6605   \@onelevel@sanitize\HyPL@Labels
6606   \ifx\HyPL@Labels\@empty
6607     \else
6608       \ifx\HyPL@Labels\HyPL@Useless
6609         \else
6610           \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6611         \fi
6612       \fi
6613 }%
```

```

6614 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6615 \fi
```

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

```

6616 \Hy@DisableOption{pdfpagelabels}
6617 </package>
```

### 28.1.1 pdfTeX and VTeX

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

`\Hy@PutCatalog`

```

6618 <*pdfTeX>
6619 \pdf@ifdraftmode{%
6620   \let\Hy@PutCatalog\ltx@gobble
6621 }{%
6622   \let\Hy@PutCatalog\pdfcatalog
6623 }
6624 </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.

```

6625 <*vtex>
6626 \providecommand*\XR@ext}{pdf}
6627 \edef\Hy@VTeXversion{%
6628   \ifx\VTeXversion\@undefined
6629     \z@
6630   \else
6631     \ifx\VTeXversion\relax
6632       \z@
6633     \else
6634       \VTeXversion
6635     \fi
6636   \fi
6637 }
6638 \begingroup
6639   \ifnum\Hy@VTeXversion<660 %
6640     \gdef\Hy@PutCatalog#1{%
6641       \Hy@WarningNoLine{%
6642         VTeX 6.59g or above required for pdfpagelabels%
6643       }%
6644     }%
6645   \else
6646     \gdef\Hy@PutCatalog#1{%
6647       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6648     }%
6649     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6650       \ifx\#2\%
6651         \else
6652           \immediate\special{!pdfpagelabels #2}%
6653         \fi
6654       }%
6655     \fi
6656 \endgroup
6657 </vtex>

6658 <*pdftex|vtex>

```

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

```

6659 \ifHy@pdfpagelabels
6660   \def\HyPL@StorePageLabel#1{%
6661     \toks@{\expandafter{\HyPL@Labels}}%
6662     \xdef\HyPL@Labels{%
6663       \the\toks@
6664       \the\Hy@abspace<<#1>>%
6665     }%
6666   }%

```

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.

```

6667 \RequirePackage{atveryend}[2009/12/07]%
6668 \AtVeryEndDocument{%
6669   \HyPL@SetPageLabels

```

```

6670 }%
6671 \fi
6672 </pdfTeX | vTeX>

```

### 28.1.2 xetex

```

6673 <*xetex>
6674 \HyPsd@LoadUnicode
6675 \Hy@unicodetrue
6676 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6677 \else
6678   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6679 \fi
6680 \HyPsd@LoadStringEncoding
6681 \define@key{Hyp}{unicode}[true]{%
6682   \Hy@boolkey{unicode}{#1}%
6683   \ifHy@unicode
6684     \else
6685       \Hy@Warning{%
6686         XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6687         option setting 'unicode=false'%
6688       }%
6689       \Hy@unicodetrue
6690 \fi
6691 }
6692 \define@key{Hyp}{pdfencoding}{%
6693   \edef\HyPsd@temp{#1}%
6694   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6695     \let\HyPsd@pdfencoding\HyPsd@temp
6696   \else
6697     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6698       \let\HyPsd@pdfencoding\HyPsd@temp
6699     \else
6700       \Hy@Warning{%
6701         XeTeX driver only supports\MessageBreak
6702         'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6703         setting 'pdfencoding=\HyPsd@temp'%
6704       }%
6705     \fi
6706   \fi
6707 }
6708 \let\HyXeTeX@CheckUnicode\relax
6709 </xetex>

```

### 28.1.3 pdfmarkbase, dvipdfm, xetex

```

6710 <*pdfmarkbase>
6711 \begingroup
6712 \ifundefined{headerps@out}{-}{%
6713   \toks@\expandafter{\Hy@FirstPageHook}%
6714   \xdef\Hy@FirstPageHook{%
6715     \noexpand\headerps@out{%
6716       systemdict /pdfmark known%
6717       {%
6718         userdict /?pdfmark systemdict /exec get put%
6719       }{%
6720         userdict /?pdfmark systemdict /pop get put %
6721         userdict /pdfmark systemdict /cleartomark get put%

```

```

6722     }%
6723     ifelse%
6724     }%
6725     \the\toks@
6726     }%
6727     }%
6728 \endgroup
6729 </pdfmarkbase>

```

\Hy@PutCatalog

```

6730 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfmark{docview << #1 >>}}
6731 <*pdfmarkbase>
6732 \def\Hy@PutCatalog#1{%
6733   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}}%
6734 }
6735 </pdfmarkbase>

6736 <*pdfmarkbase | dvipdfm | xetex>
6737 \ifHy@pdfpagelabels

```

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

```

6738 \def\HyPL@StorePageLabel#1{%
6739   \if@filesw
6740     \begingroup
6741     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6742     \immediate\write\@mainaux{%
6743       \string\HyPL@Entry{\Hy@tempa}%
6744     }%
6745     \endgroup
6746   \fi
6747 }%

```

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.

```

6748 \Hy@AtBeginDocument{%
6749   \if@filesw
6750     \immediate\write\@mainaux{%
6751       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6752     }%
6753   \fi
6754   \ifx\HyPL@Labels\@empty
6755     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6756   \else
6757     \HyPL@SetPageLabels
6758   \fi
6759   \let\HyPL@Entry\@gobble
6760 }%

```

\HyPL@Entry

```

6761 \def\HyPL@Entry#1{%
6762   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6763     \HyPL@Labels
6764     #1%
6765   }%
6766 }%

```

```

6767 \fi
6768 </pdfmarkbase | dvipdfm | xetex>
6769 (*package)
6770 \ifx\MaybeStopEarly\relax
6771 \else
6772 \Hy@stoppedearlytrue
6773 \expandafter\MaybeStopEarly
6774 \fi
6775 \Hy@stoppedearlyfalse

```

## 29 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

```

6776 \def\Hy@CounterExists#1{%
6777 \begingroup\expandafter\expandafter\expandafter\endgroup
6778 \expandafter\ifx\csname c@#1\endcsname\relax
6779 \expandafter\@gobble
6780 \else
6781 \begingroup\expandafter\expandafter\expandafter\endgroup
6782 \expandafter\ifx\csname the#1\endcsname\relax
6783 \expandafter\expandafter\expandafter\@gobble
6784 \else
6785 \expandafter\expandafter\expandafter\@firstofone
6786 \fi
6787 \fi
6788 }
6789 \Hy@CounterExists{section}{%
6790 \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6791 }
6792 \Hy@CounterExists{part}{%
6793 \providecommand\theHpart{\arabic{part}}}%
6794 }
6795 \ltx@ifundefined{thechapter}{%
6796 \providecommand\theHsection {\arabic{section}}}%
6797 \providecommand\theHfigure {\arabic{figure}}}%
6798 \providecommand\theHtable {\arabic{table}}}%
6799 }{%

```

```

6800 \providecommand\theHchapter {\arabic{chapter}}%
6801 \providecommand\theHfigure {\theHchapter.\arabic{figure}}%
6802 \providecommand\theHtable {\theHchapter.\arabic{table}}%
6803 \providecommand\theHsection {\theHchapter.\arabic{section}}%
6804 }
6805 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6806 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6807 \providecommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
6808 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6809 \providecommand\theHtheorem {\theHsection.\arabic{theorem}}
6810 \providecommand\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.

```

6811 \let\H@item\item
6812 \newcounter{Item}
6813 \def\theHItem{\arabic{Item}}
6814 \def\item{%
6815   \@hyper@itemfalse
6816   \if@nmbrlist\@hyper@itemtrue\fi
6817   \H@item
6818 }
6819 \providecommand\theHenumi {\theHItem}
6820 \providecommand\theHenumii {\theHItem}
6821 \providecommand\theHenumiii {\theHItem}
6822 \providecommand\theHenumiv {\theHItem}
6823 \providecommand\theHHfootnote {\arabic{Hfootnote}}
6824 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6825 \@ifundefined{theHHmpfootnote}{%
6826   \let\theHHmpfootnote\theHHfootnote
6827 }{}

```

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.

```

6828 \let\H@refstepcounter\refstepcounter
6829 \edef\name@of@eq{equation}%
6830 \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.

```

6831 \newif\if@hyper@item
6832 \newif\if@skiphyperref
6833 \@hyper@itemfalse
6834 \@skiphyperreffalse
6835 \def\refstepcounter#1{%
6836   \ifHy@pdfstring
6837   \else
6838     \H@refstepcounter{#1}%
6839     \edef\This@name{#1}%
6840     \ifx\This@name\name@of@slide
6841     \else
6842       \if@skiphyperref
6843       \else
6844         \if@hyper@item
6845           \stepcounter{Item}%

```

```

6846      \hyper@refstepcounter{Item}%
6847      \@hyper@itemfalse
6848      \else
6849      \hyper@refstepcounter{#1}%
6850      \fi
6851      \fi
6852      \fi
6853      \fi
6854  }
6855  \let\Hy@saved@refstepcounter\refstepcounter

```

AMSTeX 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.

```

6856  \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

6857  \def\hyper@refstepcounter#1{%
6858    \edef\This@name{#1}%
6859    \ifx\This@name\name@of@eq
6860      \@ifundefined{theHequation}{%
6861        \make@stripped@name{\theequation}%
6862        \let\theHequation\newname
6863      }{}%
6864    \fi
6865    \@ifundefined{theH#1}{%
6866      \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6867    }{}%
6868    \hyper@makecurrent{#1}%
6869    \ifmeasuring@
6870    \else
6871      \Hy@raisedlink{%
6872        \hyper@anchorstart{\@currentHref}\hyper@anchorend
6873      }%
6874    \fi
6875  }

```

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`.

```

6876  \begingroup\expandafter\expandafter\expandafter\endgroup
6877  \expandafter\ifx\csname chapter\endcsname\relax
6878    \def\Hy@chapterstring{section}%
6879  \else
6880    \def\Hy@chapterstring{chapter}%
6881  \fi
6882  \def\Hy@appendixstring{appendix}
6883  \def\Hy@chapapp{\Hy@chapterstring}
6884  \ltx@ifundefined{appendix}{%
6885  }{%
6886    \let\HyOrg@appendix\appendix
6887    \def\Hy@AlphNoErr#1{%
6888      \ifnum\value{#1}>26 %
6889      Alph\number\value{#1}%

```

```

6890 \else
6891 \ifnum\value{#1}<1 %
6892 Alph\number\value{#1}%
6893 \else
6894 \Alph{#1}%
6895 \fi
6896 \fi
6897 }%
6898 \def\appendix{%
6899 \ltx@ifundefined{chapter}{%
6900 \gdef\theHsection{\Hy@AlphNoErr{section}}}%
6901 }{%
6902 \gdef\theHchapter{\Hy@AlphNoErr{chapter}}}%
6903 }%
6904 \xdef\Hy@chapapp{\Hy@appendixstring}%
6905 \HyOrg@appendix
6906 }%
6907 }

```

\Hy@Test@alph

```

6908 \def\Hy@Test@alph#1{%
6909 \ifcase#1\or
6910 a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6911 k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6912 u\or v\or w\or x\or y\or z%
6913 \else
6914 \@ctrerr
6915 \fi
6916 }

```

\Hy@Test@Alph

```

6917 \def\Hy@Test@Alph#1{%
6918 \ifcase#1\or
6919 A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6920 K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6921 U\or V\or W\or X\or Y\or Z%
6922 \else
6923 \@ctrerr
6924 \fi
6925 }

```

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

```

6926 \def\hyper@makecurrent#1{%
6927 \begingroup
6928 \edef\Hy@param{#1}%
6929 \ifx\Hy@param\Hy@chapterstring
6930 \let\Hy@param\Hy@chapapp
6931 \fi
6932 \ifHy@hypertextnames
6933 \let\@number\@firstofone
6934 \def\@fnsymbol##1{\fnsymbol\number##1}%
6935 \def\@arabic##1{\number##1}%
6936 \ifx\@alph\Hy@Test@alph
6937 \else
6938 \def\@alph{alph\number}%
6939 \fi

```



```

6940 \ifx\@Alph\Hy@Test@Alph
6941 \else
6942 \def\@Alph{Alph\number}%
6943 \fi
6944 \ifHy@naturalnames
6945 \let\textlatin\@firstofone
6946 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6947 \else
6948 \xdef\HyperGlobalCurrentHref{%
6949 \csname
6950 the%
6951 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6952 #1%
6953 \endcsname
6954 }%
6955 \fi
6956 \xdef\HyperGlobalCurrentHref{%
6957 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6958 }%
6959 \else
6960 \Hy@GlobalStepCount\Hy@linkcounter
6961 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
6962 \fi
6963 \endgroup
6964 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6965 \ifHy@localanchorname
6966 \let\@currentHref\HyperLocalCurrentHref
6967 \else
6968 \global\let\@currentHref\HyperGlobalCurrentHref
6969 \fi
6970 }

```

\Hy@MakeCurrentHref

```

6971 \def\Hy@MakeCurrentHref#1{%
6972 \edef\HyperLocalCurrentHref{#1}%
6973 \@onelevel@sanitize\HyperLocalCurrentHref
6974 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6975 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6976 \ifHy@localanchorname
6977 \let\@currentHref\HyperLocalCurrentHref
6978 \else
6979 \global\let\@currentHref\HyperGlobalCurrentHref
6980 \fi
6981 }

```

\Hy@MakeCurrentHrefAuto

```

6982 \def\Hy@MakeCurrentHrefAuto#1{%
6983 \Hy@GlobalStepCount\Hy@linkcounter
6984 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6985 }

```

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

```

6986 \def\@currentHlabel{\@currentHref}

6987 \@ifpackageloaded{fancyvrb}{%
6988 \@ifpackagelater{fancyvrb}{1998/05/20}{%
6989 \def\FV@StepLineNo{%

```

```

6990 \FV@SetLineNo
6991 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6992 \FV@StepLineNo
6993 }%
6994 }%
6995 }{}

```

## 30 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. 39). The link will not work if option `pageanchor` is set to false.

```

\lastpage@putlabel
6996 \Hy@AtBeginDocument{%
6997 \ifclassloaded{revtex4}{%
6998 \namedef{ver@lastpage.sty}{1994/06/25}%
6999 }{}%
7000 \ifpackageloaded{lastpage}{%
7001 \ifHy@pageanchor
7002 \else
7003 \Hy@WarningNoLine{%
7004 The \string\pageref{LastPage} link doesn't work\MessageBreak
7005 with disabled option 'pageanchor'%
7006 }%
7007 \fi
7008 \def\lastpage@putlabel{%
7009 \addtocounter{page}{-1}%
7010 \if@filesw
7011 \begingroup
7012 \let\@number\@firstofone
7013 \ifHy@pageanchor
7014 \ifHy@hypertextnames
7015 \ifHy@plainpages
7016 \def\Hy@temp{\arabic{page}}%
7017 \else
7018 \Hy@unicodefalse
7019 \pdfstringdef\Hy@temp{\thepage}%
7020 \fi
7021 \else
7022 \def\Hy@temp{\the\Hy@pagecounter}%
7023 \fi
7024 \fi
7025 \immediate\write\@auxout{%
7026 \string\newlabel
7027 {LastPage}{\the\Hy@temp}{\thepage}{\thepage}%
7028 \ifHy@pageanchor page.\Hy@temp\fi}{}}%
7029 }%
7030 \endgroup
7031 \fi
7032 \addtocounter{page}{1}%
7033 }%

```

```

7034 \ifclassloaded{revtex4}{}%
7035 \begingroup
7036 \toks@{\expandafter{\lastpage@putlabel}}%
7037 \edef\x{\endgroup
7038 \def\noexpand\lastpage@putlabel{%
7039 \noexpand\stepcounter{page}}%
7040 \the\toks@
7041 \noexpand\addtocounter{page}\noexpand\m@ne
7042 }%
7043 }%
7044 \x
7045 }{}%
7046 }{}%
7047 }
7048 \</package>
7049 \<*check>
7050 \checkpackage{lastpage}[1994/06/25]
7051 \checkcommand\def\lastpage@putlabel{%
7052 \addtocounter{page}{-1}}%
7053 \immediate\write\@auxout{%
7054 \string\newlabel{LastPage}{{}{\thepage}}}%
7055 }%
7056 \addtocounter{page}{1}}%
7057 }
7058 \</check>
7059 \<*package>

```

## 31 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.

```

7060 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
7061 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

## 32 Package titlesec and titletoc support

This code is contributed by Javier Bezos (Email: jbezos@arrakis.es).

Package titlesec support:

```

7062 \ifpackageloaded{titlesec}{%
7063 \def\ttl@Hy@steplink#1{%
7064 \Hy@MakeCurrentHrefAuto{#1*}%
7065 \edef\ttl@Hy@saveanchor{%
7066 \noexpand\Hy@raisedlink{%
7067 \noexpand\hyper@anchorstart{\@currentHref}}%
7068 \noexpand\hyper@anchorend
7069 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}}%
7070 \noexpand\ttl@Hy@PatchSaveWrite
7071 }%
7072 }%
7073 }%
7074 \def\ttl@Hy@PatchSaveWrite{%
7075 \begingroup
7076 \toks@{\expandafter{\ttl@savewrite}}%
7077 \edef\x{\endgroup

```

```

7078 \def\noexpand\ttl@savewrite{%
7079 \let\noexpand\@currentHref
7080 \noexpand\ttl@Hy@SavedCurrentHref
7081 \the\toks@
7082 }%
7083 }%
7084 \x
7085 }%
7086 \def\ttl@Hy@refstepcounter#1{%
7087 \let\ttl@b\Hy@raisedlink
7088 \def\Hy@raisedlink###1{%
7089 \def\ttl@Hy@saveanchor{\Hy@raisedlink{###1}}%
7090 }%
7091 \refstepcounter{#1}%
7092 \let\Hy@raisedlink\ttl@b
7093 }%
7094 }{}

```

Package titletoc support:

```

7095 \@ifpackageloaded{titletoc}{%
7096 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
7097 }{}

```

### 33 Package varioref support

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

```

7098 \def\Hy@varioref@undefined{{??}{??}{}}{}
7099 \@ifpackageloaded{varioref}{%
7100 \def\vref@pagenum#1#2{%
7101 \ifundefined{r@#2}{%
7102 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7103 }{}%
7104 \edef#1{\getpagerefnumber{#2}}%
7105 }%
7106 }{}

```

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

```

7107 \def\Hy@varioref@refstepcounter#1{%
7108 \stepcounter{#1}%
7109 \protected@edef\@currentlabel{%
7110 \csname p@#1\expandafter\endcsname\csname the#1\endcsname
7111 }%
7112 }
7113 \AtBeginDocument{%
7114 \ifx\refstepcounter\Hy@varioref@refstepcounter
7115 \let\H@refstepcounter\refstepcounter
7116 \let\refstepcounter\Hy@saved@refstepcounter
7117 \fi
7118 }

```

### 34 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

```

7119 \@ifpackageloaded{longtable}{%
7120   \begingroup
7121   \def\y{\LT@array}%
7122   \@ifundefined{scr@LT@array}{%
7123     \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
7124   }\def\y{\scr@LT@array}%
7125   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7126     \expandafter\endgroup
7127     \expandafter\def\y[#1]#2{%
7128       \H@refstepcounter{#1}%
7129       \hyper@makecurrent{table}%
7130       \let\Hy@LT@currentHref\@currentHref
7131       #2\@sharp#3#4%
7132     }%
7133   }%
7134   \expandafter\expandafter\expandafter\x\y[#1]{#2}\@nil

```

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

```

7135   \begingroup
7136   \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7137     \endgroup
7138     \def\LT@start{%
7139       #1%
7140       \ifvoid\LT@foot#2\fi
7141       \let\@currentHref\Hy@LT@currentHref
7142       \Hy@raisedlink{%
7143         \hyper@anchorstart{\@currentHref}\hyper@anchorend
7144       }%
7145       #3%
7146     }%
7147   }%
7148   \expandafter\x\LT@start\@nil
7149 }{}

```

## 35 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 42). 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.

```

7150 \let\new@refstepcounter\refstepcounter
7151 \let\H@equation\equation
7152 \let\H@endequation\endequation
7153 \@ifpackageloaded{amsmath}{%
7154   \long\def\Hy@temp{%
7155     \incr@eqnum
7156     \mathdisplay@push
7157     \st@rredfalse \global\@eqnswtrue
7158     \mathdisplay{equation}%
7159   }%
7160   \ifx\Hy@temp\equation

```

```

7161 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7162 \csname iftrue\endcsname
7163 \else
7164 \long\def\equation{%
7165 \mathdisplay@push
7166 \st@rredfalse \global\@eqnswtrue
7167 \mathdisplay{equation}%
7168 \incr@eqnum
7169 }%
7170 \fi
7171 \fi
7172 }{%
7173 \def\equation{%
7174 \let\refstepcounter\H@refstepcounter
7175 \H@equation
7176 \@ifundefined{theHequation}{%
7177 \make@stripped@name{\theequation}%
7178 \let\theHequation\newname
7179 }{}%
7180 \hyper@makecurrent{equation}%

```

`\mathopen` is needed in case the equation starts with an unary minus, for example.

```

7181 \mathopen{%
7182 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7183 }%
7184 \let\refstepcounter\new@refstepcounter
7185 }%
7186 \def\endequation{%
7187 \ifx\Hy@raisedlink\ltx@empty
7188 \hyper@anchorend
7189 \else
7190 \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7191 \fi
7192 \H@endequation
7193 }%
7194 }

```

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.

```

7195 \newif\if@eqnstar
7196 \@eqnstarfalse
7197 \let\H@eqnarray\eqnarray
7198 \let\H@endeqnarray\endeqnarray
7199 \def\eqnarray{%
7200 \let\Hy@reserved@a\relax
7201 \def\@currentHref{}%
7202 \H@eqnarray
7203 \if@eqnstar
7204 \else
7205 \ifx\\\@currentHref\\%
7206 \else
7207 \@ifundefined{theHequation}{%
7208 \make@stripped@name{\theequation}%
7209 \let\theHequation\newname
7210 }{}%

```

```

7211 \hyper@makecurrent{equation}%
7212 \mathopen{%
7213 \Hy@raisedlink{%
7214 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7215 }%
7216 }%
7217 \fi
7218 \fi
7219 }
7220 \def\endeqnarray{%
7221 \H@endeqnarray
7222 }

```

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.

```

7223 \@namedef{eqnarray*}{%
7224 \def\@eqnocr{\nonumber\@seqnocr}\@eqnstartrue\eqnarray
7225 }
7226 \@namedef{endeqnarray*}{%
7227 \nonumber\endeqnarray\@eqnstarfalse
7228 }

```

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

```

7229 \ltx@ifundefined{subeqnarray}{-}{%
7230 \let\H@subeqnarray\subeqnarray
7231 \let\H@endsubeqnarray\endsubeqnarray
7232 \def\subeqnarray{%
7233 \let\Hy@reserved@a\relax
7234 \H@subeqnarray
7235 \@ifundefined{theHequation}{%
7236 \make@stripped@name{\theequation}%
7237 \let\theHequation\newname
7238 }{}%
7239 \hyper@makecurrent{equation}%
7240 \hyper@anchorstart{\@currentHref}{-}\hyper@anchorend
7241 }%
7242 \def\endsubeqnarray{%
7243 \H@endsubeqnarray
7244 }%
7245 \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7246 }

```

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

```

7247 \def\make@stripped@name#1{%
7248 \begingroup
7249 \escapechar\m@ne
7250 \global\let\newname\@empty
7251 \protected@edef\Hy@tempa{#1}%
7252 \edef\@tempb{%
7253 \noexpand\@tfor\noexpand\Hy@tempa:=%
7254 \expandafter\strip@prefix\meaning\Hy@tempa
7255 }%
7256 \@tempb\do{%
7257 \if{\Hy@tempa\else
7258 \if{\Hy@tempa\else

```

```

7259      \xdef\newname{\newname\Hy@tempa}%
7260      \fi
7261      \fi
7262  }%
7263  \endgroup
7264 }

```

Support for amsmath's subequations:

```

7265 \begingroup\expandafter\expandafter\expandafter\endgroup
7266 \expandafter\ifx\csname subequations\endcsname\relax
7267 \else
7268 \let\HyOrg@subequations\subequations
7269 \def\subequations{%
7270   \stepcounter{equation}%
7271   \protected@edef\theHparentequation{%
7272     \ifundefined{theHequation}\theequation\theHequation
7273   }%
7274   \addtocounter{equation}{-1}%
7275   \HyOrg@subequations
7276   \def\theHequation{\theHparentequation\alph{equation}}%
7277   \ignorespaces
7278 }%
7279 \fi

```

Support for package amsthm (Daniel Müllner):

```

7280 \@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

7281 \def\Hy@temp#1#2#3{%
7282   \ifhmode\unskip\unskip\par\fi
7283   \normalfont
7284   \trivlist
7285   \let\thmheadnl\relax
7286   \let\thm@swap\@gobble
7287   \let\thm@indent\indent % indent
7288   \thm@headfont{\scshape}% heading font small caps
7289   \thm@notefont{\fontseries\mddefault\upshape}%
7290   \thm@headpunct{.}% add period after heading
7291   \thm@headsep 5\p@ plus\p@ minus\p@\relax
7292   \thm@space@setup
7293   #1% style overrides
7294   \@topsep \thm@preskip % used by thm head
7295   \@topsepadd \thm@postskip % used by \@endparenv
7296   \def\@tempa{#2}\ifx\@empty\@tempa
7297     \def\@tempa{\@oparg{\@begintheorem{#3}{}}{}}%
7298   \else
7299     \refstepcounter{#2}%
7300     \def\@tempa{%
7301       \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}%
7302     }%
7303     \fi
7304     \@tempa
7305 }%
7306 \ifx\Hy@temp\@thm
7307 \def\@thm#1#2#3{%

```



```

7308 \ifhmode
7309 \unskip\unskip\par
7310 \fi
7311 \normalfont
7312 \trivlist
7313 \let\thmheadnl\relax
7314 \let\thm@swap\@gobble
7315 \let\thm@indent\indent % indent
7316 \thm@headfont{\scshape}% heading font small caps
7317 \thm@notefont{\fontseries\mddefault\upshape}%
7318 \thm@headpunct{.}% add period after heading
7319 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7320 \thm@space@setup
7321 #1% style overrides
7322 \@topsep \thm@preskip % used by thm head
7323 \@topsepadd \thm@postskip % used by \@endparenv
7324 \def\dth@counter{#2}%
7325 \ifx\@empty\dth@counter
7326 \def\@tempa{%
7327 \@oparg{\@begintheorem{#3}{}}{}%
7328 }%
7329 \else
7330 \H@refstepcounter{#2}%
7331 \hyper@makecurrent{#2}%
7332 \let\Hy@dth@currentHref\@currentHref
7333 \def\@tempa{%
7334 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7335 }%
7336 \fi
7337 \@tempa
7338 }%
7339 \else
7340 \def\@thm#1#2#3{%
7341 \ifhmode
7342 \unskip\unskip\par
7343 \fi
7344 \normalfont
7345 \trivlist
7346 \let\thmheadnl\relax
7347 \let\thm@swap\@gobble
7348 \thm@notefont{\fontseries\mddefault\upshape}%
7349 \thm@headpunct{.}% add period after heading
7350 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7351 \thm@space@setup
7352 #1% style overrides
7353 \@topsep \thm@preskip % used by thm head
7354 \@topsepadd \thm@postskip % used by \@endparenv
7355 \def\dth@counter{#2}%
7356 \ifx\@empty\dth@counter
7357 \def\@tempa{%
7358 \@oparg{\@begintheorem{#3}{}}{}%
7359 }%
7360 \else
7361 \H@refstepcounter{#2}%
7362 \hyper@makecurrent{#2}%
7363 \let\Hy@dth@currentHref\@currentHref
7364 \def\@tempa{%

```

```

7365     \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
7366     }%
7367     \fi
7368     \@tempa
7369     }%
7370     \fi
7371     \dth@everypar={%
7372     \@minipagefalse
7373     \global\@newlistfalse
7374     \@noparitemfalse
7375     \if@inlabel
7376     \global\@inlabelfalse
7377     \begingroup
7378     \setbox\z@\lastbox
7379     \ifvoid\z@
7380     \kern-\itemindent
7381     \fi
7382     \endgroup
7383     \ifx\@empty\dth@counter
7384     \else
7385     \Hy@raisedlink{%
7386     \hyper@anchorstart{%
7387     \ltx@ifundefined{Hy@dth@currentHref}%
7388     \@currentHref\Hy@dth@currentHref
7389     }\hyper@anchorend
7390     }%
7391     \fi
7392     \unhbox\@labels
7393     \fi
7394     \if@nobreak
7395     \@nobreakfalse \clubpenalty\@M
7396     \else
7397     \clubpenalty\@clubpenalty \everypar{}%
7398     \fi
7399     }%
7400 }{}

```

## 36 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.

```

7401 \ifHy@hyperfootnotes
7402 \newcounter{Hfootnote}%
7403 \let\H@@@footnotetext\@footnotetext
7404 \let\H@@@footnotemark\@footnotemark
7405 \def\@xfootnotenext[#1]{%
7406 \begingroup
7407 \csname c@\@mpfn\endcsname #1\relax
7408 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7409 \endgroup
7410 \ifx\@footnotetext\@mpfootnotetext
7411 \expandafter\H@@@mpfootnotetext
7412 \else

```

```

7413 \expandafter\H@@footnotetext
7414 \fi
7415 }%
7416 \def\xfootnotemark[#1]{%
7417 \begingroup
7418 \c@footnote #1\relax
7419 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7420 \endgroup
7421 \H@@footnotemark
7422 }%
7423 \let\H@@mpfootnotetext\@mpfootnotetext
7424 \long\def\@mpfootnotetext#1{%
7425 \H@@mpfootnotetext{%
7426 \ifHy@nesting
7427 \expandafter\ltx@firstoftwo
7428 \else
7429 \expandafter\ltx@secondoftwo
7430 \fi
7431 {%
7432 \expandafter\hyper@@anchor\expandafter{%
7433 \Hy@footnote@currentHref
7434 }{#1}%
7435 }{%
7436 \Hy@raisedlink{%
7437 \expandafter\hyper@@anchor\expandafter{%
7438 \Hy@footnote@currentHref
7439 }{\relax}%
7440 }{#1}%
7441 }%
7442 }%
7443 }%
7444 \long\def\@footnotetext#1{%
7445 \H@@footnotetext{%
7446 \ifHy@nesting
7447 \expandafter\ltx@firstoftwo
7448 \else
7449 \expandafter\ltx@secondoftwo
7450 \fi
7451 {%
7452 \expandafter\hyper@@anchor\expandafter{%
7453 \Hy@footnote@currentHref
7454 }{#1}%
7455 }{%
7456 \Hy@raisedlink{%
7457 \expandafter\hyper@@anchor\expandafter{%
7458 \Hy@footnote@currentHref
7459 }{\relax}%
7460 }%
7461 \let\@currentHref\Hy@footnote@currentHref
7462 \let\@currentlabelname\@empty
7463 #1%
7464 }%
7465 }%
7466 }%

```

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.

```

7467 \def\@footnotemark{%
7468 \leavevmode
7469 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7470 \stepcounter{Hfootnote}%
7471 \global\let\Hy@saved@currentHref\@currentHref
7472 \hyper@makecurrent{Hfootnote}%
7473 \global\let\Hy@footnote@currentHref\@currentHref
7474 \global\let\@currentHref\Hy@saved@currentHref
7475 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7476 \@makefnmark
7477 \hyper@linkend
7478 \ifhmode\spacefactor\@x@sf\fi
7479 \relax
7480 }%

```

Tabularx causes footnote problems, disable the linking if that is loaded. Since v6.82i footnotes are only disabled inside the environment ‘tabularx’.

```

7481 \@ifpackageloaded{tabularx}{%
7482 \let\HyOrg@TX@endtabularx\TX@endtabularx
7483 \def\Hy@tabularx@hook{%
7484 \let\@footnotetext\H@@footnotetext
7485 \let\@footnotemark\H@@footnotemark
7486 \let\@mpfootnotetext\H@@mpfootnotetext
7487 }%
7488 \begingroup
7489 \toks@\expandafter{\TX@endtabularx}%
7490 \xdef\Hy@gtemp{%
7491 \noexpand\Hy@tabularx@hook
7492 \the\toks@
7493 }%
7494 \endgroup
7495 \let\TX@endtabularx\Hy@gtemp
7496 }{}%

```

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

```

7497 \@ifpackageloaded{longtable}{%
7498 \CheckCommand*{\LT@p@ftntext}[1]{%
7499 \edef\@tempa{%
7500 \the\LT@p@ftn
7501 \noexpand\footnotetext[\the\c@footnote]%
7502 }%
7503 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7504 }%
7505 \long\def\LT@p@ftntext#1{%
7506 \edef\@tempa{%
7507 \the\LT@p@ftn
7508 \begingroup
7509 \noexpand\c@footnote=\the\c@footnote\relax
7510 \noexpand\protected\xdef\noexpand\@thefnmark{%
7511 \noexpand\thempfn
7512 }%
7513 \noexpand\Hy@LT@footnotetext{%
7514 \Hy@footnote@currentHref

```

```

7515     }%
7516 }%
7517 \global\LT@p@ftn\expandafter{%
7518   \@tempa{#1}%
7519   \endgroup
7520 }%
7521 }%
7522 \long\def\Hy@LT@footnotetext#1#2{%
7523   \H@@footnotetext{%
7524     \ifHy@nesting
7525       \hyper@@anchor{#1}{#2}%
7526     \else
7527       \Hy@raisedlink{%
7528         \hyper@@anchor{#1}{\relax}%
7529       }%
7530       \def\@currentHref{#1}%
7531       \let\@currentlabelname\@empty
7532       #2%
7533     \fi
7534   }%
7535 }%
7536 }{}%

```

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

```

7537 \ifpackageloaded{fancyvrb}{%
7538   \def\V@@footnotetext{%
7539     \insert\footins\bgroup
7540     \csname reset@font\endcsname
7541     \footnotesize
7542     \interlinepenalty\interfootnotelinepenalty
7543     \splittopskip\footnotesep
7544     \splitmaxdepth\dp\strutbox
7545     \floatingpenalty \@MM
7546     \hsize\columnwidth
7547     \@parboxrestore
7548     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7549     \@makefntext{}%
7550     \rule{\z@}{\footnotesep}%
7551     \bgroup
7552     \aftergroup\V@@@footnotetext
7553     \Hy@raisedlink{%
7554       \expandafter\hyper@@anchor\expandafter{%
7555         \Hy@footnote@currentHref
7556       }{\relax}%
7557     }%
7558     \let\@currentHref\Hy@footnote@currentHref
7559     \let\@currentlabelname\@empty
7560     \ignorespaces
7561   }%
7562 }{}%

```

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

```

7563 \def\Hy@temp#1{%
7564   \begingroup
7565   \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7566   \endgroup
7567   \@footnotemark

```

```

7568 }%
7569 \ifx\Hy@temp\footref
7570 \def\footref#1{%
7571 \begingroup
7572 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7573 \endgroup
7574 \H@@footnotemark
7575 }%
7576 \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.

```

7577 \let\HyOrg@maketitle\maketitle
7578 \def\maketitle{%
7579 \let\Hy@saved@footnotemark\@footnotemark
7580 \let\Hy@saved@footnotetext\@footnotetext
7581 \let\@footnotemark\H@@footnotemark
7582 \let\@footnotetext\H@@footnotetext
7583 \@ifnextchar[\Hy@maketitle@optarg{% ]
7584 \HyOrg@maketitle
7585 \Hy@maketitle@end
7586 }%
7587 }%
7588 \def\Hy@maketitle@optarg[#1]{%
7589 \HyOrg@maketitle[{#1}]%
7590 \Hy@maketitle@end
7591 }%
7592 \def\Hy@maketitle@end{%
7593 \ifx\@footnotemark\H@@footnotemark
7594 \let\@footnotemark\Hy@saved@footnotemark
7595 \fi
7596 \ifx\@footnotetext\H@@footnotetext
7597 \let\@footnotetext\Hy@saved@footnotetext
7598 \fi
7599 }%

```

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

```

7600 \def\realfootnote{%
7601 \@ifnextchar[\@xfootnote{%
7602 \stepcounter{\@mpfn}%
7603 \protected@xdef\@thefnmark{\thempfn}%
7604 \H@@@footnotemark\H@@@footnotetext
7605 }%
7606 }%
7607 \fi
7608 \Hy@DisableOption{hyperfootnotes}

7609 \</package>
7610 \< *check>
7611 \checklatex
7612 \checkcommand\def\@xfootnotenext[#1]{%
7613 \begingroup
7614 \csname c@\@mpfn\endcsname #1\relax
7615 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7616 \endgroup
7617 \@footnotetext

```

```

7618 }
7619 \checkcommand\def\@xfootnotemark[#1]{%
7620   \begingroup
7621     \c@footnote #1\relax
7622     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7623   \endgroup
7624   \@footnotemark
7625 }
7626 \checkcommand\def\@footnotemark{%
7627   \leavevmode
7628   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7629   \@makefnmark
7630   \ifhmode\spacefactor\@x@sf\fi
7631   \relax
7632 }
7633 \end{check}
7634 \end{package}

```

## 37 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.

```

7635 \def\caption{%
7636   \ifx\@c@type\@undefined
7637     \@latex@error{\noexpand\caption outside float}\@ehd
7638     \expandafter\@gobble
7639   \else
7640     \H@refstepcounter\@c@type
7641     \let\Hy@tempa\@caption
7642     \@ifundefined{float\@caption}{%
7643       }{%
7644         \expandafter\ifx\csname @float@c@\@c@type\endcsname
7645           \float\@caption
7646         \let\Hy@tempa\Hy@float\@caption
7647       \fi
7648     }%
7649     \expandafter\@firstofone
7650   \fi
7651   {\@dblarg{\Hy@tempa\@c@type}}%
7652 }
7653 \long\def\@caption#1[#2]#3{%
7654   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7655     \csname iftrue\endcsname
7656     \global\let\@currentHref\hc@currentHref
7657   \else
7658     \hyper@makecurrent{\@c@type}%
7659   \fi
7660   \@ifundefined{NR@getttitle}{%
7661     \def\@currentlabelname{#2}%
7662   }{%
7663     \NR@getttitle{#2}%
7664   }%
7665   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7666     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7667   }%
7668   \begingroup

```

```

7669 \parboxrestore
7670 \if@minipage
7671 \setminipage
7672 \fi
7673 \normalsize
7674 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7675 \csname iftrue\endcsname
7676 \global\@capstartfalse
7677 \makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7678 \else
7679 \makecaption{\csname fnum@#1\endcsname}{%
7680 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7681 \ifHy@nesting
7682 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7683 \else
7684 \Hy@raisedlink{%
7685 \expandafter\hyper@@anchor\expandafter{%
7686 \@currentHref
7687 }{\relax}%
7688 }%
7689 #3%
7690 \fi
7691 }%
7692 \fi
7693 \par
7694 \endgroup
7695 }

```

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.

`\HyNew@float@makebox` is introduced as feature request of Axel Sommerfeldt to make the life easier for his package ‘caption’.

```

7696 \let\Hy@float@caption\@caption
7697 \newcommand{\HyNew@float@makebox}[1]{%
7698 \HyOrg@float@makebox{%
7699 #1\relax
7700 \ifx\Hy@float@currentHref\@undefined
7701 \else
7702 \expandafter\hyper@@anchor\expandafter{%
7703 \Hy@float@currentHref
7704 }{\relax}%
7705 \global\let\Hy@float@currentHref\@undefined
7706 \fi
7707 }%
7708 }%
7709 \@ifpackageloaded{float}{%
7710 \def\Hy@float@caption{%
7711 \ifx\Hy@float@currentHref\@undefined
7712 \hyper@makecurrent{\@cuptype}%
7713 \global\let\Hy@float@currentHref\@currentHref
7714 \else
7715 \let\@currentHref\Hy@float@currentHref
7716 \fi
7717 \float@caption
7718 }%

```



```

7719 \let\HyOrg@float@makebox\float@makebox
7720 \let\float@makebox\HyNew@float@makebox
7721 }-{}

7722 </package>
7723 <*check>
7724 \checklatex[1999/06/01 - 2000/06/01]
7725 \checkcommand\def\caption{%
7726   \ifx\@cuptype\@undefined
7727     \@latex@error{\noexpand\caption outside float}\@ehd
7728     \expandafter\@gobble
7729   \else
7730     \refstepcounter\@cuptype
7731     \expandafter\@firstofone
7732   \fi
7733   {\@dblarg{\@caption\@cuptype}}}%
7734 }
7735 \checkcommand\long\def\@caption#1[#2]#3{%
7736   \par
7737   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7738     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7739   }%
7740   \begingroup
7741     \@parboxrestore
7742     \if@minipage
7743       \setminipage
7744     \fi
7745     \normalsize
7746     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7747   \endgroup
7748 }
7749 </check>
7750 <*package>

```

## 38 Bibliographic references

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

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

```

7751 \def\hyper@natlinkstart#1{%
7752   \Hy@backout{#1}%
7753   \hyper@linkstart{cite}{cite.#1}%
7754   \def\hyper@nat@current{#1}%
7755 }
7756 \def\hyper@natlinkend{%
7757   \hyper@linkend
7758 }
7759 \def\hyper@natlinkbreak#1#2{%
7760   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7761 }
7762 \def\hyper@natanchorstart#1{%

```

```

7763 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7764 }
7765 \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.

```

7766 \ltx@ifundefined{NAT@parse}{%
7767   \providecommand*\@extra@binfo{}%
7768   \providecommand*\@extra@b@citeb{}%
7769   \def\bibcite#1#2{%
7770     \@newl@bel{b}{#1}\@extra@binfo}%
7771     \hyper@link[cite]{#1}\@extra@b@citeb}{#2}%
7772   }%
7773 }%
7774 \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.”.

```

7775 \let\Hy@bibcite\bibcite
7776 \begingroup
7777   \@ifundefined{bbl@cite@choice}{}{%
7778     \g@addto@macro\bbl@cite@choice{%
7779       \let\bibcite\Hy@bibcite
7780     }%
7781   }%
7782 \endgroup

```

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

```

7783 \providecommand*\@BIBLABEL{\@biblabel}%
7784 \def\@bibitem[#1]#2{%
7785   \@skiphyperreftrue
7786   \H@item[%
7787     \ifx\Hy@raisedlink\@empty
7788       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7789       \@BIBLABEL{#1}%
7790       \hyper@anchorend
7791     \else
7792       \Hy@raisedlink{%
7793         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7794       }%
7795       \@BIBLABEL{#1}%
7796     \fi
7797     \hfill
7798   ]%
7799   \@skiphyperreffalse
7800   \if@filesw
7801     \begingroup
7802       \let\protect\noexpand
7803       \immediate\write\@auxout{%
7804         \string\bibcite{#2}{#1}%
7805       }%
7806     \endgroup
7807   \fi
7808   \ignorespaces
7809 }%

```

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

```

7810 \def\@bibitem#1{%
7811   \@skiphyperreftrue\H@item\@skiphyperreffalse
7812   \Hy@raisedlink{%
7813     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7814   }%
7815   \if@filesw
7816     \begingroup
7817     \let\protect\noexpand
7818     \immediate\write\@auxout{%
7819       \string\bibcite{#1}{\the\value{\@listctr}}}%
7820     }%
7821   \endgroup
7822   \fi
7823   \ignorespaces
7824 }%
7825 }{}

7826 \</package>
7827 \< *check>
7828 \checklatex
7829 \checkcommand\def\@lbibitem[#1]#2{%
7830   \item[\@biblabel{#1}\hfill]%
7831   \if@filesw
7832     {%
7833       \let\protect\noexpand
7834       \immediate\write\@auxout{%
7835         \string\bibcite{#2}{#1}%
7836       }%
7837     }%
7838   \fi
7839   \ignorespaces
7840 }
7841 \checkcommand\def\@bibitem#1{%
7842   \item
7843   \if@filesw
7844     \immediate\write\@auxout{%
7845       \string\bibcite{#1}{\the\value{\@listctr}}}%
7846     }%
7847   \fi
7848   \ignorespaces
7849 }
7850 \</check>
7851 \< *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.

```

7852 \@ifclassloaded{revtex}{%
7853   \Hy@Info{*** compatibility with revtex **** }%
7854   \def\revtex@checking#1#2{%
7855     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
7856     \expandafter\def\csname b@#1\endcsname{#2}%
7857     \@SetMaxRnhefLabel{#1}%
7858     \expandafter\let\csname b@#1\endcsname\T@temp
7859   }%

```

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

```

7860 \ifundefined{@CITE}{\def\CITE{\@cite}}}%
7861 \providecommand*{\@extra@b@citeb}{}%
7862 \def\CITEX[#1]#2{%
7863   \let\@citea\@empty
7864   \leavevmode
7865   \unskip
7866   $~{%
7867     \scriptstyle
7868     \@CITE{%
7869       \@for\@citeb:=#2\do{%
7870         \@citea
7871         \def\@citea{,\penalty\@m\ }%
7872         \edef\@citeb{\expandafter\@firstofone\@citeb}%
7873         \if@filesw
7874           \immediate\write\@auxout{\string\citation{\@citeb}}%
7875         \fi
7876         \ifundefined{b@\@citeb\@extra@b@citeb}{%
7877           \mbox{\reset@font\bfseries ?}%
7878           \G@refundefinedtrue
7879           \@latex@warning{%
7880             Citation ‘\@citeb’ on page \thepage \space undefined%
7881           }%
7882         }{%
7883           {\csname b@\@citeb\@extra@b@citeb\endcsname}%
7884         }%
7885       }%
7886     }{#1}%
7887   }$%
7888 }%

```

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.

```

7889 \def\citex[#1]#2{%
7890   \let\@citea\@empty
7891   \@cite{%
7892     \@for\@citeb:=#2\do{%
7893       \@citea
7894       \def\@citea{,\penalty\@m\ }%
7895       \edef\@citeb{\expandafter\@firstofone\@citeb}%
7896       \if@filesw
7897         \immediate\write\@auxout{\string\citation{\@citeb}}%
7898       \fi
7899       \ifundefined{b@\@citeb\@extra@b@citeb}{%
7900         \mbox{\reset@font\bfseries ?}%
7901         \G@refundefinedtrue
7902         \@latex@warning{%
7903           Citation ‘\@citeb’ on page \thepage \space undefined%
7904         }%
7905       }{%
7906         \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7907       }%
7908     }%
7909   }{#1}%
7910 }%
7911 }{}

```

## 38.1 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.

```

7912 \@ifpackageloaded{harvard}{%
7913   \Hy@AtBeginDocument{%
7914     \Hy@Info{*** compatibility with harvard *** }%
7915     \Hy@raiselinksfalse
7916     \def\harvardcite#1#2#3#4{%
7917       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{#1}{#2}}%
7918       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{#1}{#3}}%
7919       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{#1}{#4}}%
7920       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7921     }%
7922     \def\HAR@citetoaux#1{%
7923       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7924       \ifHy@backref
7925         \ifx\@empty\@currentlabel
7926         \else
7927           \@bsphack
7928           \if@filesw
7929             \protected@write\@auxout{}{%
7930               \string\writefile{brf}{%
7931                 \string\backcite{#1}{%
7932                   {thepage}{\@currentlabel}{\@currentHref}%
7933                 }%
7934               }%
7935             }%
7936           \fi
7937           \@esphack
7938         \fi
7939       \fi
7940     }%
7941     \def\harvarditem{%
7942       \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7943     }%
7944     \def\@harvarditem[#1]#2#3#4#5\par{%
7945       \item[]%
7946       \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7947       \if@filesw
7948         \begingroup
7949           \def\protect##1{\string ##1\space}%
7950           \ifthenelse{\equal{#1}{\null}}{%
7951             {\def\next{{#4}{#2}{#2}{#3}}}%
7952             {\def\next{{#4}{#2}{#1}{#3}}}%
7953           \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7954         \endgroup
7955       \fi
7956       \protect\hspace*{-\labelwidth}%
7957       \protect\hspace*{-\labelsep}%
7958       \ignorespaces
7959       #5%

```

```

7960 \ifHy@backref
7961 \newblock
7962 \backref{\csname br@#4\endcsname}%
7963 \fi
7964 \par
7965 }%

```

\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:

```

7966 \long\def\HAR@checkcitations#1#2#3#4{%
7967 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
7968 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7969 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
7970 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7971 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
7972 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7973 \else
7974 \@tempswatrue
7975 \fi
7976 \else
7977 \@tempswatrue
7978 \fi
7979 \else
7980 \@tempswatrue
7981 \fi
7982 }%
7983 }%
7984 {}

```

## 38.2 Package chicago

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

```

7985 \@ifpackageloaded{chicago}{%

```

\citeN

```

7986 \def\citeN{%
7987 \def\@citeseppen{-1000}%
7988 \def\@cite##1##2{##1}%
7989 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7990 \@citedata@opt
7991 }%

```

\shortciteN

```

7992 \def\shortciteN{%
7993 \def\@citeseppen{-1000}%
7994 \def\@cite##1##2{##1}%
7995 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7996 \@citedata@opt
7997 }%

```

\@citedata@opt

```

7998 \def\@citedata@opt{%
7999 \let\@cite@opt\@empty
8000 \@ifnextchar [{%

```

```

8001    \@tempswatrue
8002    \@citedatax@opt
8003  }{%
8004    \@tempswafalse
8005    \@citedatax[]%
8006  }%
8007 }%

\@citedatax@opt

8008 \def\@citedatax@opt[#1]{%
8009   \def\@cite@opt{, #1}%
8010   \@citedatax[{#1}]%
8011 }%

8012 }{}


```

## 39 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.

```

8013 \ltx@ifclassloaded{slides}{%
8014   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
8015   \def\Hy@PageAnchorSlidesPlain{%
8016     \advance\c@page\ltx@one
8017     \edef\Hy@TempPageAnchor{%
8018       \noexpand\hyper@@anchor{%
8019         page.\the\c@slide.\the\c@overlay.\the\c@note%
8020         \ifnum\c@page=\ltx@one
8021           \else
8022             .\the\c@page
8023           \fi
8024         }%
8025       }%
8026     \advance\c@page-\ltx@one
8027   }%
8028   \def\Hy@PageAnchorSlide{%
8029     \advance\c@page\ltx@one
8030     \ifnum\c@page>\ltx@one
8031       \ltx@ifundefined{theHpage}{%
8032         \protected@edef\Hy@TheSlideOptionalPage{%
8033           \Hy@SlidesFormatOptionalPage{\thepage}%
8034         }%
8035       }{%
8036         \protected@edef\Hy@TheSlideOptionalPage{%
8037           \Hy@SlidesFormatOptionalPage{\theHpage}%
8038         }%
8039       }%
8040     \else
8041       \def\Hy@TheSlideOptionalPage{}%
8042     \fi
8043     \advance\c@page-\ltx@one
8044     \pdfstringdef\@the@H@page{%

```

```

8045 \csname
8046 the%
8047 \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
8048 \Hy@SlidesPage
8049 \endcsname
8050 \Hy@TheSlideOptionalPage
8051 }%
8052 \ltx@gobblethree
8053 }%
8054 \def\Hy@SlidesPage{slide}%
8055 \g@addto@macro\slide{%
8056 \def\Hy@SlidesPage{slide}%
8057 }%
8058 \g@addto@macro\overlay{%
8059 \def\Hy@SlidesPage{overlay}%
8060 }%
8061 \g@addto@macro\note{%
8062 \def\Hy@SlidesPage{note}%
8063 }%
8064 }{%
8065 \def\Hy@PageAnchorSlidesPlain{}%
8066 \def\Hy@PageAnchorSlide{}%
8067 }
8068 \def\Hy@EveryPageAnchor{%
8069 \Hy@DistillerDestFix
8070 \ifHy@pageanchor
8071 \ifHy@hypertexnames
8072 \ifHy@plainpages
8073 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
8074 \Hy@PageAnchorSlidesPlain
8075 \else
8076 \begingroup
8077 \let\@number\@firstofone
8078 \Hy@unicodedefalse
8079 \Hy@PageAnchorSlide
8080 \pdfstringdef\@the@H@page{\thepage}%
8081 \endgroup
8082 \EdefUnescapeString\@the@H@page{\@the@H@page}%
8083 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
8084 \fi
8085 \else
8086 \Hy@GlobalStepCount\Hy@pagecounter
8087 \def\Hy@TempPageAnchor{%
8088 \hyper@@anchor{page.\the\Hy@pagecounter}%
8089 }%
8090 \fi
8091 \vbox to 0pt{%
8092 \kern\voffset
8093 \kern\topmargin
8094 \kern-1bp\relax
8095 \hbox to 0pt{%
8096 \kern\hoffset
8097 \kern\ifodd\value{page}%
8098 \oddsidemargin
8099 \else
8100 \evensidemargin
8101 \fi

```



```

8102     \kern-1bp\relax
8103     \Hy@TempPageAnchor\relax
8104     \hss
8105     }%
8106     \vss
8107     }%
8108     \fi
8109 }
8110 \g@addto@macro\Hy@EveryPageBoxHook{%
8111     \Hy@EveryPageAnchor
8112 }

```

## 40 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.

```

8113 \def\addcontentsline#1#2#3{% toc extension, type, tag
8114     \begingroup
8115     \let\label\@gobble
8116     \ifx\@currentHref\@empty
8117         \Hy@Warning{%
8118             No destination for bookmark of \string\addcontentsline,%
8119             \MessageBreak destination is added%
8120         }%
8121     \phantomsection
8122     \fi
8123     \expandafter\ifx\csname toplevel@#2\endcsname\relax
8124     \begingroup
8125         \def\Hy@tempa{#1}%
8126         \ifx\Hy@tempa\Hy@bookmarkstype
8127             \Hy@WarningNoLine{%
8128                 bookmark level for unknown #2 defaults to 0%
8129             }%
8130         \else
8131             \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8132         \fi
8133     \endgroup
8134     \expandafter\gdef\csname toplevel@#2\endcsname{0}%
8135     \fi
8136     \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
8137     \Hy@writebookmark{\csname the#2\endcsname}%
8138         {#3}%
8139         {\@currentHref}%
8140         {\Hy@toclevel}%
8141         {#1}%
8142     \ifHy@verbose
8143     \begingroup
8144         \def\Hy@tempa{#3}%
8145         \@onelevel@sanitize\Hy@tempa
8146         \let\temp@online\on@line
8147         \let\on@line\@empty
8148         \Hy@Info{%
8149             bookmark\temp@online:\MessageBreak
8150             thecounter {\csname the#2\endcsname}\MessageBreak
8151             text {\Hy@tempa}\MessageBreak

```

```

8152     reference {\@currentHref}\MessageBreak
8153     toplevel {\Hy@toclevel}\MessageBreak
8154     type {#1}%
8155 }%
8156 \endgroup
8157 \fi
8158 \addtocontents{#1}{%
8159   \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
8160 }%
8161 \endgroup
8162 }
8163 \def\contentsline#1#2#3#4{%
8164   \ifx\#4\%
8165     \csname l@#1\endcsname{#2}{#3}%
8166   \else
8167     \ifcase\Hy@linktoc % none
8168       \csname l@#1\endcsname{#2}{#3}%
8169     \or % section
8170       \csname l@#1\endcsname{%
8171         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
8172       }{#3}%
8173     \or % page
8174       \csname l@#1\endcsname{{#2}}{%
8175         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
8176       }%
8177     \else % all
8178       \csname l@#1\endcsname{%
8179         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
8180       }{%
8181         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
8182       }%
8183     \fi
8184   \fi
8185 }
8186 \</package>
8187 \< *check>
8188 \checklatex
8189 \checkcommand\def\addcontentsline#1#2#3{%
8190   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
8191 }
8192 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8193 \</check>
8194 \< *package>

```

## 41 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.

```

8195 \let\H@definecounter\@definecounter
8196 \def\@definecounter#1{%
8197   \H@definecounter{#1}%
8198   \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8199 }

```

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.

```

8200 \let\H@newctr\@newctr
8201 \def\@newctr#1[#2]{%
8202   \H@newctr#1[#2]}%
8203 \expandafter\gdef\csname theH#1\endcsname{%
8204   \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}%
8205 }%
8206 }

```

## 42 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.

```

8207 \@ifpackageloaded{amsmath}{%
8208   \def\Hy@make@anchor{%
8209     \Hy@MakeCurrentHrefAuto{AMS}%
8210     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8211   }%
8212   \def\Hy@make@df@tag@@#1{%
8213     \gdef\df@tag{%
8214       \maketag@@@{\Hy@make@anchor#1}%
8215       \def\@currentlabel{#1}%
8216     }%
8217   }%
8218   \def\Hy@make@df@tag@@@#1{%
8219     \gdef\df@tag{%
8220       \tagform@{\Hy@make@anchor#1}%
8221       \toks@{\xp{p@equation{#1}}}%
8222       \edef\@currentlabel{\the\toks@}%
8223     }%
8224   }%
8225   \let\HyOrg@make@df@tag@@\make@df@tag@@
8226   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8227   \let\make@df@tag@@\Hy@make@df@tag@@
8228   \let\make@df@tag@@@\Hy@make@df@tag@@@
8229 }{}

```

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

```

8230 \@ifpackagewith{hyperref}{pdf $\TeX$ }{%
8231   \let\H@seteqlabel\@seteqlabel
8232   \def\@seteqlabel#1{%
8233     \H@seteqlabel{#1}%
8234     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8235     \Hy@raisedlink{%
8236       \hyper@anchorstart{\@currentHref}\hyper@anchorend
8237     }%
8238   }%
8239 }{}

```

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}}}}

```

## 42.1 \@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.

```

8240 \let\HyOrg@addtoreset\@addtoreset
8241 \def\@addtoreset#1#2{%
8242   \HyOrg@addtoreset{#1}{#2}%
8243   \expandafter\xdef\csname theH#1\endcsname{%
8244     \expandafter\noexpand
8245     \csname the\@ifundefined{theH#2}{H#2\endcsname
8246     .\noexpand\the\noexpand\value{#1}}%
8247   }%
8248 }

```

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

```

8249 \</package>
8250 \<check>
8251 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8252 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8253   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8254     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8255       \@addtoreset{#2}{#3}%
8256       \@xp\xdef\csname the#2\endcsname{%
8257         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8258       }%
8259     }%
8260   }%
8261 }%
8262 \</check>
8263 \<package>
8264 \@ifpackageloaded{amsmath}{%
8265   \@ifpackagelater{amsmath}{1999/12/14}{%
8266     \renewcommand*{\numberwithin}[3][\arabic]{%
8267       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8268         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8269           \HyOrg@addtoreset{#2}{#3}%
8270           \@xp\xdef\csname the#2\endcsname{%
8271             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8272           }%
8273           \@xp\xdef\csname theH#2\endcsname{%
8274             \@xp\@nx
8275             \csname the\@ifundefined{theH#3}{H#3\endcsname
8276             .\@nx#1{#2}}%
8277           }%
8278         }%
8279       }%
8280     }%
8281   }%

```

```

8282 \Hy@WarningNoLine{%
8283 \string\numberwithin\space of package 'amsmath' %
8284 only fixed\MessageBreak
8285 for version 2000/06/06 v2.12 or newer%
8286 }%
8287 }%
8288 }{}

```

## 43 Included figures

Simply intercept the low level graphics package macro.

```

8289 \ifHy@hyperfigures
8290 \let\Hy@Gin@setfile\Gin@setfile
8291 \def\Gin@setfile#1#2#3{%
8292 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8293 }%
8294 \fi
8295 \Hy@DisableOption{hyperfigures}

```

## 44 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 boldfening 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.

```

8296 \ifHy@hyperindex
8297 \def\HyInd@ParenLeft{({}%
8298 \def\HyInd@ParenRight{)}}%
8299 \def\hyperindexformat#1#2{%
8300 \let\HyOrg@hyperpage\hyperpage
8301 \let\hyperpage\@firstofone
8302 #1{\HyOrg@hyperpage{#2}}%
8303 \let\hyperpage\HyOrg@hyperpage
8304 }%
8305 \Hy@nextfalse
8306 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8307 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8308 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8309 \begingroup
8310 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
8311 \lccode'\|/'=\|\\relax
8312 \lowercase{\endgroup
8313 \ifHy@next
8314 \let\HyInd@org@wrindex\@wrindex
8315 \def\@wrindex#1#2{\HyInd@@wrindex{#1}{#2}||\\}%
8316 \def\HyInd@@wrindex#1#2|#3|#4\\{%
8317 \ifx\\#3\\%
8318 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8319 \else

```

```

8320     \HyInd@@@wrindex{#1}{#2}#3\\%
8321     \fi
8322 }%
8323 \def\HyInd@@@wrindex#1#2#3#4\\{%
8324     \def\Hy@temp@A{#3}%
8325     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8326         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8327         \relax
8328     \HyInd@org@wrindex{#1}{%
8329         #2|hyperindexformat{/#3#4}%
8330     }%
8331 \else
8332     \ifx\\#4\\%
8333         \ifx\Hy@temp@A\HyInd@ParenRight
8334             \HyInd@org@wrindex{#1}{#2|#3}%
8335         \else
8336             \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8337         \fi
8338     \else
8339         \HyInd@org@wrindex{#1}{%
8340             #2|#3hyperindexformat{/#4}%
8341         }%
8342     \fi
8343 \fi
8344 }%
8345 \else
8346     \def\@wrindex#1{\@wrindex#1||\}%
8347     \def\@wrindex#1|#2|#3\\{%
8348         \if@filesw
8349             \ifx\\#2\\%
8350                 \protected@write\@indexfile{}{%
8351                     \string\indexentry{#1|hyperpage}{\thepage}%
8352                 }%
8353             \else
8354                 \HyInd@@@wrindex{#1}#2\\%
8355             \fi
8356         \fi
8357     \endgroup
8358     \@esphack
8359 }%
8360 \def\HyInd@@@wrindex#1#2#3\\{%
8361     \def\Hy@temp@A{#2}%
8362     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8363         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8364         \relax
8365     \protected@write\@indexfile{}{%
8366         \string\indexentry{%
8367             #1|hyperindexformat{/#2#3}%
8368         }{\thepage}%
8369     }%
8370 \else
8371     \ifx\\#3\\%
8372         \ifx\Hy@temp@A\HyInd@ParenRight
8373             \protected@write\@indexfile{}{%
8374                 \string\indexentry{#1|#2}{\thepage}%
8375             }%
8376         \else

```

```

8377         \protected@write\@indexfile{}\{%
8378         \string\indexentry{#1|#2hyperpage}\thepage}%
8379     }%
8380     \fi
8381     \else
8382         \protected@write\@indexfile{}\{%
8383         \string\indexentry{%
8384         #1|#2hyperindexformat{/#3}%
8385         }\thepage}%
8386     }%
8387     \fi
8388     \fi
8389 }%
8390 \fi
8391 }%
8392 \fi
8393 \Hy@DisableOption{hyperindex}
8394 \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.

```

8395 \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.

```

8396 \def\hyperpage#1{%
8397   \HyInd@hyperpage#1\nohyperpage{}\@nil
8398 }
8399 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8400   \HyInd@@hyperpage{#1}%
8401   #2%
8402   \def\Hy@temp{#3}%
8403   \ifx\Hy@temp\@empty
8404   \else
8405     \ltx@ReturnAfterFi{%
8406       \HyInd@hyperpage#3\@nil
8407     }%
8408   \fi
8409 }
8410 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8411 \def\@hyperpage#1--#2--#3\{\%
8412   \ifx\#2\%
8413     \@commahyperpage{#1}%
8414   \else
8415     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8416   \fi
8417 }
8418 \def\@commahyperpage#1{\@commahyperpage#1, \}
8419 \def\@commahyperpage#1, #2,#3\{\%
8420   \ifx\#2\%
8421     \HyInd@pagelink{#1}%
8422   \else
8423     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8424   \fi
8425 }

```

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

```

8426 \def\HyInd@pagelink#1{%
8427   \begingroup
8428     \toks@={}%
8429     \HyInd@removespaces#1 \@nil
8430   \endgroup
8431 }
8432 \def\HyInd@removespaces#1 #2\@nil{%
8433   \toks@=\expandafter{\the\toks@#1}%
8434   \ifx\\#2\\%
8435     \edef\x{\the\toks@}%
8436     \ifx\x\@empty
8437       \else
8438         \hyperlink{page.\the\toks@}{\the\toks@}%
8439       \fi
8440     \else
8441       \ltx@ReturnAfterFi{%
8442         \HyInd@removespaces#2\@nil
8443       }%
8444     \fi
8445 }

```

## 45 Compatibility with foiltex

```

8446 \@ifclassloaded{foils}{%
8447   \providecommand*\ext@table{lot}%
8448   \providecommand*\ext@figure{lof}%
8449 }{}

```

## 46 Compatibility with seminar slide package

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

```

8450 \@ifclassloaded{seminar}{%
8451   \Hy@seminarslidestrue
8452   \providecommand\theHslide{\arabic{slide}}}%
8453 }{}%
8454 \Hy@seminarslidesfalse
8455 }
8456 \@ifpackageloaded{slidesec}{%
8457   \providecommand\theHslidesection {\arabic{slidesection}}}%
8458   \providecommand\theHslidesubsection{%
8459     \theHslidesection.\arabic{slidesubsection}}%
8460 }%
8461 \def\slide@heading[#1]#2{%
8462   \H@refstepcounter{slidesection}%
8463   \@addtoreset{slidesubsection}{slidesection}%
8464   \addtocontents{los}{%
8465     \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8466     {\@SCTR}{slideheading.\theslidesection}}%
8467   }%
8468   \def\Hy@tempa{#2}%
8469   \ifx\Hy@tempa\@empty
8470     \else
8471       {%
8472         \edef\@currentlabel{%
8473           \csname p@slidesection\endcsname\theslidesection

```



```

8474     }%
8475     \makeslideheading{#2}%
8476 }%
8477 \fi
8478 \gdef\theslideheading{#1}%
8479 \gdef\theslidesubheading{}%
8480 \ifHy@bookmarksnumbered
8481     \def\Hy@slidetitle{\theslide\space #1}%
8482 \else
8483     \def\Hy@slidetitle{#1}%
8484 \fi
8485 \ifHy@hypertextnames
8486     \ifHy@naturalnames
8487         \hyper@@anchor{slideheading.\theslide\space #1}%
8488         \Hy@writebookmark
8489             {\theslide\space #1}%
8490             {\Hy@slidetitle}%
8491             {slideheading.\theslide\space #1}%
8492             {1}%
8493             {toc}%
8494     \else
8495         \hyper@@anchor{slideheading.\theslide\space #1}%
8496         \Hy@writebookmark
8497             {\theslide\space #1}%
8498             {\Hy@slidetitle}%
8499             {slideheading.\theslide\space #1}%
8500             {1}%
8501             {toc}%
8502     \fi
8503 \else
8504     \Hy@GlobalStepCount\Hy@linkcounter
8505     \hyper@@anchor{slideheading.\theslide\Hy@linkcounter}%
8506     \Hy@writebookmark
8507         {\theslide\space #1}%
8508         {\Hy@slidetitle}%
8509         {slideheading.\theslide\Hy@linkcounter}%
8510         {1}%
8511         {toc}%
8512 \fi
8513 }%
8514 \def\slide@subheading[#1]#2{%
8515     \H@refstepcounter{slidesubsection}%
8516     \addtocontents{los}{%
8517         \protect\l@subslide{\theslide\space #1}%
8518         {\@SCTR}{slideheading.\theslide\space #1}%
8519     }%
8520     \def\Hy@tempa{#2}%
8521     \ifx\Hy@tempa\@empty
8522     \else
8523         {%
8524             \edef\@currentlabel{%
8525                 \csname p@slidesubsection\endcsname\theslide\space #1
8526             }%
8527             \makeslidesubheading{#2}%
8528         }%
8529     \fi
8530 \gdef\theslidesubheading{#1}%

```

```

8531 \ifHy@bookmarksnumbered
8532 \def\Hy@slidetitle{\theslidesubsection\space #1}%
8533 \else
8534 \def\Hy@slidetitle{#1}%
8535 \fi
8536 \ifHy@hypertextnames
8537 \ifHy@naturalnames
8538 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8539 \Hy@writebookmark
8540 {\theslidesubsection}%
8541 {\Hy@slidetitle}%
8542 {slideheading.\theslidesubsection}%
8543 {2}%
8544 {toc}%
8545 \else
8546 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8547 \Hy@writebookmark
8548 {\theslidesubsection}%
8549 {\Hy@slidetitle}%
8550 {slideheading.\theHslidesubsection}%
8551 {2}%
8552 {toc}%
8553 \fi
8554 \else
8555 \Hy@GlobalStepCount\Hy@linkcounter
8556 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8557 \Hy@writebookmark
8558 {\theslidesubsection}%
8559 {\Hy@slidetitle}%
8560 {slideheading.\the\Hy@linkcounter}%
8561 {1}%
8562 {toc}%
8563 \fi
8564 }%
8565 \providecommand*{\listslidenam}{List of Slides}%
8566 \def\listofslides{%
8567 \section*{%
8568 \listslidenam
8569 \@mkboth{%
8570 \expandafter\MakeUppercase\listslidenam
8571 }{%
8572 \expandafter\MakeUppercase\listslidenam
8573 }%
8574 }%
8575 \def\l@slide##1##2##3##4{%
8576 \slide@undottedcline{%
8577 \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8578 }{%
8579 }%
8580 \let\l@subslide\l@slide
8581 \@startlos
8582 }%
8583 \def\slide@contents{%
8584 \def\l@slide##1##2##3##4{%
8585 \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8586 }%
8587 \let\l@subslide\@gobblefour

```

```

8588 \startlos
8589 }%
8590 \def\Slide@contents{%
8591 \def\l@slide###1##2###3###4{%
8592 \ifcase\lslide@flag
8593 \message{##1 ** \the\c@slidesection}%
8594 \ifnum##1>\c@slidesection
8595 \def\lslide@flag{1}%
8596 {%
8597 \large
8598 \slide@cline{%
8599 \slidenumberline{$\Rightarrow\bullet$}%
8600 {\hyperlink{###4}{##2}}}%
8601 }{##3}%
8602 }%
8603 \else
8604 {%
8605 \large
8606 \slide@cline{%
8607 \slidenumberline{$\surd\;\bullet$}%
8608 {\hyperlink{###4}{##2}}}%
8609 }{##3}%
8610 }%
8611 \fi
8612 \or
8613 \def\lslide@flag{2}%
8614 {%
8615 \large
8616 \slide@cline{%
8617 \slidenumberline{$\bullet$}%
8618 {\hyperlink{###4}{##2}}}%
8619 }{##3}%
8620 }%
8621 \or
8622 {%
8623 \large
8624 \slide@cline{%
8625 \slidenumberline{$\bullet$}%
8626 {\hyperlink{###4}{##2}}}%
8627 }{##3}%
8628 }%
8629 \fi
8630 }%
8631 \def\l@subslide###1##2###3###4{%
8632 \ifnum\lslide@flag=1 %
8633 \undottedtocline{2}{3.8em}{3.2em}{\hyperlink{###4}{##2}}}%
8634 \fi
8635 }%
8636 \def\lslide@flag{0}%
8637 \startlos
8638 }%
8639 }-}

```

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.)

```

8640 \ifHy@texht
8641 \expandafter\endinput

```

```

8642 \fi
8643 \let\real@setref\@setref
8644 \def\@setref#1#2#3{% csname, extract group, refname
8645   \ifx#1\relax
8646     \protect\G@refundefinedtrue
8647     \nfss@text{\reset@font\bfseries ??}%
8648     \@latex@warning{%
8649       Reference ‘#3’ on page \thepage \space undefined%
8650     }%
8651   \else
8652     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8653   \fi
8654 }

```

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

```

8655 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8656   \begingroup
8657   \toks0={\hyper@@link{#5}{#4}}%
8658   \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8659   \edef\x{\endgroup
8660     \the\toks0 {\the\toks1 }%
8661   }%
8662   \x
8663 }
8664 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8665   \ifx#1\relax
8666     \protect\G@refundefinedtrue
8667     \nfss@text{\reset@font\bfseries ??}%
8668     \@latex@warning{%
8669       Reference ‘#3’ on page \thepage \space undefined%
8670     }%
8671   \else
8672     \protect\hyper@@link
8673     {\expandafter\@fifthoffive#1}%
8674     {page.\expandafter\@secondoffive#1}%
8675     {\expandafter\@secondoffive#1}%
8676   \fi
8677 }
8678 \</package>
8679 \< *check>
8680 \checklatex
8681 \checkcommand\def\@setref#1#2#3{%
8682   \ifx#1\relax
8683     \protect\G@refundefinedtrue
8684     \nfss@text{\reset@font\bfseries ??}%
8685     \@latex@warning{%
8686       Reference ‘#3’ on page \thepage \space undefined%
8687     }%
8688   \else
8689     \expandafter#2#1\@null
8690   \fi
8691 }
8692 \</check>
8693 \< *package>

```

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

```

8694 \def\HyRef@StarSetRef#1{%
8695   \begingroup
8696   \Hy@safe@activetrue
8697   \edef\x{#1}%
8698   \@onelevel@sanitize\x
8699   \edef\x{\endgroup
8700     \noexpand\HyRef@@StarSetRef
8701     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8702   }%
8703   \x
8704 }
8705 \def\HyRef@@StarSetRef#1#2#3{%
8706   \ifx#1\@undefined
8707     \let#1\relax
8708   \fi
8709   \real@setref#1#3{#2}%
8710 }
8711 \def\@refstar#1{%
8712   \HyRef@StarSetRef{#1}\@firstoffive
8713 }
8714 \def\@pagerefstar#1{%
8715   \HyRef@StarSetRef{#1}\@secondoffive
8716 }
8717 \def\@namerefstar#1{%
8718   \HyRef@StarSetRef{#1}\@thirdoffive
8719 }
8720 \Hy@AtBeginDocument{%
8721   \@ifpackageloaded{varioref}{%
8722     \def\@Refstar#1{%
8723       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8724     }%
8725     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8726       \MakeUppercase#1%
8727     }%
8728     \DeclareRobustCommand*\@Ref*{%
8729       \@ifstar\@Refstar\HyRef@Ref
8730     }%
8731     \def\HyRef@Ref#1{%
8732       \hyperref[{#1}]{\@Ref*{#1}}%
8733     }%
8734     \def\Vr@f#1{%
8735       \leavevmode\unskip\vref@space
8736       \hyperref[{#1}]{%
8737         \@Ref*{#1}%
8738         \let\vref@space\nobreakspace
8739         \@vpageref[\unskip]{#1}%
8740       }%
8741     }%
8742     \def\vr@f#1{%
8743       \leavevmode\unskip\vref@space
8744       \begingroup
8745       \let\T@pageref\@pagerefstar
8746       \hyperref[{#1}]{%
8747         \@Ref*{#1}%
8748         \vpageref[\unskip]{#1}%
8749       }%
8750     }%

```

```

8751 }%
8752 }{}%
8753 }
8754 \DeclareRobustCommand*{\autopageref}{%
8755   \@ifstar{%
8756     \HyRef@autopagerefname\pageref*%
8757   }\HyRef@autopageref
8758 }
8759 \def\HyRef@autopageref#1{%
8760   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8761 }
8762 \def\HyRef@autopagerefname{%
8763   \ltx@ifundefined{pageautorefname}{%
8764     \ltx@ifundefined{pagename}{%
8765       \Hy@Warning{No autoref name for 'page'}%
8766     }{%
8767       \pagename\nobreakspace
8768     }%
8769   }{%
8770     \pageautorefname\nobreakspace
8771   }%
8772 }

```

\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.

```

8773 \DeclareRobustCommand*{\autoref}{%
8774   \leavevmode
8775   \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
8776 }
8777 \def\HyRef@autoref#1#2{%
8778   \begingroup
8779     \Hy@safe@activestrue
8780     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8781   \endgroup
8782 }
8783 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8784   \HyRef@ShowKeysRef{#2}%
8785   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8786     \edef\HyRef@thisref{%
8787       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8788     }%
8789     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8790     \Hy@safe@activesfalse
8791     #3{%
8792       \expandafter\@fifthoffive#1\@empty\@empty\@empty
8793     }{%
8794       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8795     }{%
8796       \HyRef@currentHtag
8797       \expandafter\@firstoffive#1\@empty\@empty\@empty
8798       \null
8799     }%
8800   \else
8801     \protect\G@refundefinedtrue
8802     \nfss@text{\reset@font\bfseries ??}%
8803     \@latex@warning{%
8804       Reference '#2' on page \thepage\space undefined%
8805     }%

```

```

8806 \fi
8807 }
8808 \def\HyRef@testreftype#1.#2\{\%
8809 \ltx@ifundefined{#1autorefname}{\%
8810 \ltx@ifundefined{#1name}{\%
8811 \HyRef@StripStar#1\*\@nil{#1}%
8812 \ltx@ifundefined{\HyRef@name autorefname}{\%
8813 \ltx@ifundefined{\HyRef@name name}{\%
8814 \def\HyRef@currentHtag{\%
8815 \Hy@Warning{No autoref name for '#1'}%
8816 }{\%
8817 \edef\HyRef@currentHtag{\%
8818 \expandafter\noexpand\csname\HyRef@name name\endcsname
8819 \noexpand~%
8820 }%
8821 }%
8822 }{\%
8823 \edef\HyRef@currentHtag{\%
8824 \expandafter\noexpand
8825 \csname\HyRef@name autorefname\endcsname
8826 \noexpand~%
8827 }%
8828 }%
8829 }{\%
8830 \edef\HyRef@currentHtag{\%
8831 \expandafter\noexpand\csname#1name\endcsname
8832 \noexpand~%
8833 }%
8834 }%
8835 }{\%
8836 \edef\HyRef@currentHtag{\%
8837 \expandafter\noexpand\csname#1autorefname\endcsname
8838 \noexpand~%
8839 }%
8840 }%
8841 }
8842 \def\HyRef@StripStar#1*\@nil#3{\%
8843 \def\HyRef@name{#2}%
8844 \ifx\HyRef@name\HyRef@CaseStar
8845 \def\HyRef@name{#1}%
8846 \else
8847 \def\HyRef@name{#3}%
8848 \fi
8849 }
8850 \def\HyRef@CaseStar{*\\}
8851 \def\HyRef@currentHtag{

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8852 \let\HyRef@ShowKeysRef\@gobble
8853 \def\HyRef@ShowKeysInit{\%
8854 \begingroup\expandafter\expandafter\expandafter\endgroup
8855 \expandafter\ifx\csname SK@@label\endcsname\relax
8856 \else
8857 \ifx\SK@ref\@empty
8858 \else
8859 \def\HyRef@ShowKeysRef{\%

```

```

8860      \SK@\SK@@ref
8861    }%
8862  \fi
8863 \fi
8864 }
8865 \@ifpackageloaded{showkeys}{%
8866   \HyRef@ShowKeysInit
8867 }{%
8868   \Hy@AtBeginDocument{%
8869     \@ifpackageloaded{showkeys}{%
8870       \HyRef@ShowKeysInit
8871     }{}%
8872   }%
8873 }

```

Defaults for the names that `\autoref` uses.

```

8874 \providecommand*\AMSautorefname{\equationautorefname}
8875 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8876 \providecommand*\Itemautorefname{\itemautorefname}
8877 \providecommand*\itemautorefname{item}
8878 \providecommand*\equationautorefname{Equation}
8879 \providecommand*\footnoteautorefname{footnote}
8880 \providecommand*\itemautorefname{item}
8881 \providecommand*\figureautorefname{Figure}
8882 \providecommand*\tableautorefname{Table}
8883 \providecommand*\partautorefname{Part}
8884 \providecommand*\appendixautorefname{Appendix}
8885 \providecommand*\chapterautorefname{chapter}
8886 \providecommand*\sectionautorefname{section}
8887 \providecommand*\subsectionautorefname{subsection}
8888 \providecommand*\subsubsectionautorefname{subsubsection}
8889 \providecommand*\paragraphautorefname{paragraph}
8890 \providecommand*\subparagraphautorefname{subparagraph}
8891 \providecommand*\FancyVerbLineautorefname{line}
8892 \providecommand*\theoremautorefname{Theorem}
8893 \providecommand*\pageautorefname{page}
8894 \end{package}

```

## 47 Configuration files

### 47.1 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`.

```

8895 \ifpdf \ifx\pdfescapestring\pdfescapestring\else
8896 \begin{group}\expandafter\expandafter\expandafter\end{group}
8897 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8898 \begin{group}
8899   \catcode'\| = 0 %
8900   \@makeother\| %
8901   \@firstofone{\end{group}}

```



```

8902 |def|Hy@pstringdef#1#2{%
8903 |begingroup
8904 |edef~{|string~}%
8905 |xdef|Hy@gtemp{#2}%
8906 |endgroup
8907 |let#1|Hy@gtemp
8908 |@onelevel@sanitize#1%
8909 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8910 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8911 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8912 }%
8913 |def|Hy@ExchangeBackslash#1\#2|@nil{%
8914 #1%
8915 |ifx|\#2|\%%
8916 |else
8917 \\\%
8918 |ltx@ReturnAfterFi{%
8919 |Hy@ExchangeBackslash#2|@nil
8920 }%
8921 |fi
8922 }%
8923 }%
8924 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8925 #1%
8926 \ifx\#2\%%
8927 \else
8928 \@backslashchar(%
8929 \ltx@ReturnAfterFi{%
8930 \Hy@ExchangeLeftParenthesis#2\@nil
8931 }%
8932 \fi
8933 }%
8934 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8935 #1%
8936 \ifx\#2\%%
8937 \else
8938 \@backslashchar)%
8939 \ltx@ReturnAfterFi{%
8940 \Hy@ExchangeRightParenthesis#2\@nil
8941 }%
8942 \fi
8943 }%
8944 \else
8945 \def\Hy@pstringdef#1#2{%
8946 \begingroup
8947 \edef~{\string~}%
8948 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8949 \endgroup
8950 \let#1\Hy@gtemp
8951 }%
8952 \fi
8953 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 47.2 pdfTeX

```

8954 <*pdfTeX>
8955 \providecommand*{\XR@ext}{pdf}

```

```

8956 \Hy@setbreaklinks{true}
8957 \def\HyPat@ObjRef{%
8958   [0-9]*[1-9][0-9]* 0 R%
8959 }

```

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

```

8960 \let\Hy@pdfminorversion\relax
8961 \begingroup\expandafter\expandafter\expandafter\endgroup
8962 \expandafter\ifx\csname pdfminorversion\endcsname\relax
8963   \begingroup\expandafter\expandafter\expandafter\endgroup
8964   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
8965     \else
8966       \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8967     \fi
8968   \else
8969     \def\Hy@pdfminorversion{\pdfminorversion}%
8970   \fi
8971   \@ifundefined{Hy@pdfminorversion}{%
8972     \PackageInfo{hyperref}{%
8973       PDF version is not set, because pdfTeX is too old (<1.10a)%
8974     }%
8975   }{%
8976     \ifHy@ocgcolorlinks
8977       \ifnum\Hy@pdfminorversion<5 %
8978         \kvsetkeys{Hyp}{pdfversion=1.5}%
8979       \fi
8980     \fi
8981     \ifHy@setpdfversion
8982       \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8983       \else
8984         \Hy@pdfminorversion=\Hy@pdfversion\relax
8985       \fi
8986       \PackageInfo{hyperref}{%
8987         \expandafter\string\Hy@pdfminorversion
8988         :=\number\Hy@pdfversion\space
8989       }%
8990     \fi
8991     \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8992   }
8993   \Hy@DisableOption{pdfversion}%
8994   \ifHy@ocgcolorlinks
8995     \pdf@ifdraftmode{}{%
8996       \immediate\pdfobj{%
8997         <<%
8998           /Type/OCG%
8999           /Name(View)%
9000           /Usage<<%
9001             /Print<<%
9002               /PrintState/OFF%
9003             >>%
9004           /View<<%

```

```

9005         /ViewState/ON%
9006     >>%
9007 >>%
9008 >>%
9009 }%
9010 \edef\OBJ@OCG@view{\the\pdfastobj\space 0 R}%
9011 \immediate\pdfobj{%
9012     <<%
9013         /Type/OCG%
9014         /Name(Print)%
9015         /Usage<<%
9016         /Print<<%
9017         /PrintState/ON%
9018     >>%
9019     /View<<%
9020         /ViewState/OFF%
9021     >>%
9022 >>%
9023 >>%
9024 }%
9025 \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
9026 \immediate\pdfobj{%
9027     [%
9028         \OBJ@OCG@view\space\OBJ@OCG@print
9029     ]%
9030 }%
9031 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
9032 \pdfcatalog{%
9033     /OCProperties<<%
9034         /OCGs \OBJ@OCGs
9035     /D<<%
9036         /OFF[\OBJ@OCG@print]%
9037     /AS[%
9038         <<%
9039             /Event/View%
9040             /OCGs \OBJ@OCGs
9041             /Category[/View]%
9042         >>%
9043         <<%
9044             /Event/Print%
9045             /OCGs \OBJ@OCGs
9046             /Category[/Print]%
9047         >>%
9048         <<%
9049             /Event/Export%
9050             /OCGs \OBJ@OCGs
9051             /Category[/Print]%
9052         >>%
9053     ]%
9054 >>%
9055 >>%
9056 }%
9057 \begingroup
9058 \edef\x{\endgroup
9059     \pdfpageresources{%
9060         /Properties<<%
9061         /OCView \OBJ@OCG@view

```

```

9062      /OCPrint \OBJ@OCG@print
9063      >>%
9064      }%
9065      }%
9066      \x
9067      }%
9068      \Hy@AtBeginDocument{%
9069      \def\Hy@colorlink#1{%
9070      \begingroup
9071      \ifHy@ocgcolorlinks
9072      \def\Hy@ocgcolor{#1}%
9073      \setbox0=\hbox\bgroup\color@begingroup
9074      \else
9075      \HyColor@UseColor#1%
9076      \fi
9077      }%
9078      \def\Hy@endcolorlink{%
9079      \ifHy@ocgcolorlinks
9080      \color@endgroup\egroup
9081      \mbox{%
9082      \pdfliteral page{/OC/OCPrint BDC}%
9083      \rlap{\copy0}%
9084      \pdfliteral page{EMC/OC/OCView BDC}%
9085      \begingroup
9086      \expandafter\HyColor@UseColor\Hy@ocgcolor
9087      \box0 %
9088      \endgroup
9089      \pdfliteral page{EMC}%
9090      }%
9091      \fi
9092      \endgroup
9093      }%
9094      }%
9095      \else
9096      \Hy@DisableOption{ocgcolorlinks}%
9097      \fi

```

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

```

9098 \def\setpdfinkmargin#1{\pdfinkmargin#1}
9099 \ifx\pdfstartlink\@undefined% less than version 14
9100 \let\pdfstartlink\pdfannotlink
9101 \let\pdfinkmargin\@tempdima
9102 \let\pdfxform\pdfform
9103 \let\pdflastxform\pdflastform
9104 \let\pdfrefxform\pdfrefform
9105 \else
9106 \pdfinkmargin1pt %
9107 \fi

```

First set up the default linking

```

9108 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

9109 \Hy@WrapperDef\new@pdfink#1{%
9110 \ifhmode
9111 \@savsf\spacefactor
9112 \fi
9113 \Hy@SaveLastskip
9114 \Hy@VerboseAnchor{#1}%

```

```

9115 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9116 \Hy@DestName\Hy@pstringDest\@pdfview
9117 \Hy@RestoreLastskip
9118 \ifhmode
9119   \spacefactor\@savs
9120 \fi
9121 }
9122 \let\pdf@endanchor\@empty

```

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

```

9123 \def\Hy@DestName#1#2{%
9124   \pdfdest name{#1}#2\relax
9125 }

```

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.

```

9126 \providecommand*\@pdfborder{0 0 1}
9127 \providecommand*\@pdfborderstyle{}
9128 \def\Hy@undefinedname{UNDEFINED}
9129 \def\find@pdflink#1#2{%
9130   \leavevmode
9131   \protected@edef\Hy@testname{#2}%
9132   \ifx\Hy@testname\@empty
9133     \Hy@Warning{%
9134       Empty destination name,\MessageBreak
9135       using '\Hy@undefinedname'%
9136     }%
9137     \let\Hy@testname\Hy@undefinedname
9138   \else
9139     \Hy@pstringdef\Hy@testname{%
9140       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
9141     }%
9142   \fi
9143   \Hy@StartlinkName{%
9144     \ifHy@pdfa /F 4\fi
9145     \Hy@setpdfborder
9146     \ifx\@pdfhighlight\@empty
9147       \else
9148         /H\@pdfhighlight
9149       \fi
9150     \ifx\CurrentBorderColor\relax
9151       \else
9152         /C[\CurrentBorderColor]%
9153       \fi
9154   }\Hy@testname
9155   \expandafter\Hy@colorlink\csname @#1color\endcsname
9156 }
9157 \def\Hy@StartlinkName#1#2{%
9158   \pdfstartlink attr{#1}goto name{#2}\relax
9159 }
9160 \def\close@pdflink{%
9161   \Hy@endcolorlink
9162   \Hy@VerboseLinkStop
9163   \pdfendlink

```

```

9164 }
9165 \def\hyper@anchor#1{%
9166   \new@pdfink{#1}\anchor@spot\pdf@endanchor
9167 }
9168 \def\hyper@anchorstart#1{%
9169   \new@pdfink{#1}%
9170   \Hy@activeanchortrue
9171 }
9172 \def\hyper@anchorend{%
9173   \pdf@endanchor
9174   \Hy@activeanchorfalse
9175 }
9176 \def\hyper@linkstart#1#2{%
9177   \Hy@VerboseLinkStart{#1}{#2}%
9178   \ltx@ifundefined{#@#1bordercolor}{%
9179     \let\CurrentBorderColor\relax
9180   }{%
9181     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9182   }%
9183   \find@pdfink{#1}{#2}%
9184 }
9185 \def\hyper@linkend{\close@pdfink}
9186 \def\hyper@link#1#2#3{%
9187   \Hy@VerboseLinkStart{#1}{#2}%
9188   \ltx@ifundefined{#@#1bordercolor}{%
9189     \let\CurrentBorderColor\relax
9190   }{%
9191     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9192   }%
9193   \find@pdfink{#1}{#2}#3\Hy@xspace@end
9194   \close@pdfink
9195 }
9196 \let\CurrentBorderColor\@linkbordercolor
9197 \def\hyper@linkurl#1#2{%
9198   \begingroup
9199     \Hy@pstringdef\Hy@pstringURI{#2}%
9200     \hyper@chars
9201     \leavevmode
9202     \pdfstartlink
9203     attr{%
9204       \Hy@setpdfborder
9205       \ifx\@pdfhighlight\@empty
9206         \else
9207           /H\@pdfhighlight
9208         \fi
9209       \ifx\@urlbordercolor\relax
9210         \else
9211           /C[\@urlbordercolor]%
9212         \fi
9213     }%
9214     user{%
9215       /Subtype/Link%
9216       \ifHy@pdfa /F 4\fi
9217       /A<<%
9218       /Type/Action%
9219       /S/URI%
9220       /URI(\Hy@pstringURI)%

```

```

9221     \ifHy@href@ismap
9222     /IsMap true%
9223     \fi
9224     \Hy@href@nextactionraw
9225     >>%
9226     }%
9227     \relax
9228     \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9229     \close@pdflink
9230 \endgroup
9231 }
9232 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9233 \begingroup
9234 \def\Hy@pstringF{#2}%
9235 \Hy@CleanupFile\Hy@pstringF
9236 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9237 \Hy@pstringdef\Hy@pstringD{#3}%
9238 \Hy@MakeRemoteAction
9239 \leavevmode
9240 \pdfstartlink
9241 attr{%
9242 \Hy@setpdfborder
9243 \ifx\@pdfhighlight\@empty
9244 \else
9245 /H\@pdfhighlight
9246 \fi
9247 \ifx\@filebordercolor\relax
9248 \else
9249 /C[\@filebordercolor]%
9250 \fi
9251 }%
9252 user {%
9253 /Subtype/Link%
9254 \ifHy@pdfa /F 4\fi
9255 /A<<%
9256 /F(\Hy@pstringF)%
9257 /S/GoToR%
9258 \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}

```

```

9259     \ifx\#3\%
9260     /D[\Hy@href@page\@pdfremotestartview]%
9261     \else
9262     /D(\Hy@pstringD)%
9263     \fi
9264     \Hy@href@nextactionraw
9265     >>%

```

```

9266 }%
9267 \relax
9268 \Hy@colorlink\@filecolor#1\Hy@xspace@end
9269 \close@pdflink
9270 \endgroup
9271 }
9272 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9273 \begingroup
9274 \Hy@pstringdef\Hy@pstringF{#1}%
9275 \Hy@pstringdef\Hy@pstringP{#3}%
9276 \leavevmode
9277 \pdfstartlink
9278 attr{%
9279 \Hy@setpdfborder
9280 \ifx\@pdfhighlight\@empty
9281 \else
9282 /H\@pdfhighlight
9283 \fi
9284 \ifx\@runbordercolor\relax
9285 \else
9286 /C[\@runbordercolor]%
9287 \fi
9288 }%
9289 user {%
9290 /Subtype/Link%
9291 \ifHy@pdfa /F 4\fi
9292 /A<<%
9293 /F(\Hy@pstringF)%
9294 /S/Launch%
9295 \Hy@SetNewWindow
9296 \ifx\#3\%
9297 \else
9298 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9299 \fi
9300 \Hy@href@nextactionraw
9301 >>%
9302 }%
9303 \relax
9304 \Hy@colorlink\@runcolor#2\Hy@xspace@end
9305 \close@pdflink
9306 \endgroup
9307 }

```

\@pdfproducer

```

9308 \ifx\@pdfproducer\relax
9309 \begingroup\expandafter\expandafter\expandafter\endgroup
9310 \expandafter\ifx\csname luatexversion\endcsname\relax
9311 \def\@pdfproducer{pdfTeX}%
9312 \ifx\eTeXversion\@undefined
9313 \else
9314 \ifx\eTeXversion\relax
9315 \else
9316 \ifnum\eTeXversion>0 %
9317 \def\@pdfproducer{pdfTeX}%
9318 \fi
9319 \fi
9320 \fi

```



```

9321 \ifx\pdfTeXversion\@undefined
9322 \else
9323 \ifnum\pdfTeXversion<100 %
9324 \edef\@pdfproducer{%
9325 \@pdfproducer
9326 \the\pdfTeXversion.\pdfTeXrevision
9327 }%
9328 \else
9329 \ifnum\pdfTeXversion<130 %
9330 \edef\@pdfproducer{%
9331 \@pdfproducer-%
9332 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9333 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9334 \pdfTeXrevision
9335 }%
9336 \else
9337 \ifnum\pdfTeXversion<140 %
9338 \else
9339 \def\@pdfproducer{pdfTeX}%
9340 \fi
9341 \edef\@pdfproducer{%
9342 \@pdfproducer-%
9343 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9344 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9345 \pdfTeXrevision
9346 }%
9347 \fi
9348 \fi
9349 \fi
9350 \else
9351 \begingroup
9352 \count@=\luaTeXversion
9353 \divide\count@ by 100 %
9354 \edef\x{\the\count@}%
9355 \count@=-\x\relax
9356 \multiply\count@ by 100 %
9357 \advance\count@ by \luaTeXversion
9358 \edef\x{\endgroup
9359 \def\noexpand\@pdfproducer{%
9360 LuaTeX-\x.\the\count@.\luaTeXrevision
9361 }%
9362 }%
9363 \x
9364 \fi
9365 \fi

```

\PDF@SetupDox

```

9366 \def\PDF@SetupDoc{%
9367 \ifx\@pdfpagescrop\@empty
9368 \else
9369 \edef\process@me{%
9370 \pdfpagesattr=%
9371 /CropBox[\@pdfpagescrop]%
9372 \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
9373 \else
9374 ^^J\the\pdfpagesattr
9375 \fi
9376 }%

```

```

9377 }%
9378 \process@me
9379 \fi
9380 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9381 \pdfcatalog{%
9382 /PageMode/\@pdfpagemode
9383 \ifx\@baseurl\@empty
9384 \else
9385 /URI<</Base(\Hy@pstringB)>>%
9386 \fi
9387 }%
9388 \ifx\@pdfstartpage\@empty
9389 \else
9390 \ifx\@pdfstartview\@empty
9391 \else
9392 openaction goto page\@pdfstartpage{\@pdfstartview}%
9393 \fi
9394 \fi
9395 \edef\Hy@temp{%
9396 \ifHy@pdftoolbar\else /HideToolbar true\fi
9397 \ifHy@pdfmenubar\else /HideMenubar true\fi
9398 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9399 \ifHy@pdffitwindow /FitWindow true\fi
9400 \ifHy@pdfcenterwindow /CenterWindow true\fi
9401 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9402 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9403 \Hy@UseNameKey{Direction}\@pdfdirection
9404 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9405 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9406 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9407 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9408 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9409 \Hy@UseNameKey{Duplex}\@pdfduplex
9410 \ifx\@pdfpicktraybypdfsize\@empty
9411 \else
9412 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9413 \fi
9414 \ifx\@pdfprintpagerange\@empty
9415 \else
9416 /PrintPageRange[\@pdfprintpagerange]%
9417 \fi
9418 \ifx\@pdfnumcopies\@empty
9419 \else
9420 /NumCopies \@pdfnumcopies
9421 \fi
9422 }%
9423 \pdfcatalog{%
9424 \ifx\Hy@temp\@empty
9425 \else
9426 /ViewerPreferences<<\Hy@temp>>%
9427 \fi
9428 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9429 \ifx\@pdflang\@empty
9430 \else
9431 /Lang(\@pdflang)%
9432 \fi
9433 }%

```

9434 }

\PDF@FinishDoc

```
9435 \def\PDF@FinishDoc{%
9436   \pdf@ifdraftmode{}{%
9437     \Hy@UseMaketitleInfos
9438     \HyInfo@GenerateAddons
9439     \pdfinfo{%
9440       /Author(\@pdfauthor)%
9441       /Title(\@pdftitle)%
9442       /Subject(\@pdfsubject)%
9443       /Creator(\@pdfcreator)%
9444       \ifx\@pdfcreationdate\@empty
9445       \else
9446         /CreationDate(\@pdfcreationdate)%
9447       \fi
9448       \ifx\@pdfmoddate\@empty
9449       \else
9450         /ModDate(\@pdfmoddate)%
9451       \fi
9452       \ifx\@pdfproducer\relax
9453       \else
9454         /Producer(\@pdfproducer)%
9455       \fi
9456       /Keywords(\@pdfkeywords)%
9457       \ifx\@pdftrapped\@empty
9458       \else
9459         /Trapped/\@pdftrapped
9460       \fi
9461       \HyInfo@Addons
9462     }%
9463   }%
9464   \Hy@DisableOption{pdfauthor}%
9465   \Hy@DisableOption{pdftitle}%
9466   \Hy@DisableOption{pdfsubject}%
9467   \Hy@DisableOption{pdfcreator}%
9468   \Hy@DisableOption{pdfcreationdate}%
9469   \Hy@DisableOption{pdfmoddate}%
9470   \Hy@DisableOption{pdfproducer}%
9471   \Hy@DisableOption{pdfkeywords}%
9472   \Hy@DisableOption{pdftrapped}%
9473   \Hy@DisableOption{pdfinfo}%
9474 }
```

\hyper@pagetransition \@pdfpagetransition is initialized with \relax. So it indicates, if option pdfpage-  
transition is used. First previous /Trans entries are removed. If a new /Trans  
key exists, it is appended to \pdfpageattr.

```
9475 \def\hyper@pagetransition{%
9476   \ifx\@pdfpagetransition\relax
9477   \else
9478     \expandafter\Hy@RemoveTransPageAttr
9479     \the\pdfpageattr^^J/Trans{>>\END
9480     \ifx\@pdfpagetransition\@empty
9481     \else
9482       \edef\@processme{%
9483         \global\pdfpageattr{%
9484           \the\pdfpageattr
```

```

9485      ^^J/Trans << /S /\@pdfpagetransition\space >>%
9486      }%
9487      }%
9488      \@processme
9489      \fi
9490      \fi
9491      }

```

`\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.

```

9492 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9493   \ifx\#2\%
9494     \global\pdfpageattr{#1}%
9495   \else
9496     \Hy@RemoveTransPageAttr#1#4\END
9497   \fi
9498   }

```

`\hyper@pageduration` `\@pdfpageduration` is initialized with `\relax`. So it indicates, if option `pdfpage-duration` is used. First previous `/Dur` entries are removed. If a new `/Dur` key exists, it is appended to `\pdfpageattr`.

```

9499 \def\hyper@pageduration{%
9500   \ifx\@pdfpageduration\relax
9501   \else
9502     \expandafter
9503     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9504     \ifx\@pdfpageduration\@empty
9505     \else
9506       \edef\@processme{%
9507         \global\pdfpageattr{%
9508           \the\pdfpageattr
9509           ^^J/Dur \@pdfpageduration\space
9510         }%
9511       }%
9512       \@processme
9513     \fi
9514   \fi
9515   }

```

`\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.

```

9516 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9517   \ifx\#2\%
9518     \global\pdfpageattr{#1}%
9519   \else
9520     \Hy@RemoveDurPageAttr#1#4\END
9521   \fi
9522   }

```

`\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).

```

9523 \def\hyper@pagehidden{%
9524   \ifHy@useHidKey
9525     \expandafter
9526     \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9527   \ifHy@pdfpagehidden
9528     \edef\@processme{%
9529       \global\pdfpageattr{%
9530         \the\pdfpageattr
9531         ^^J/Hid true % SPACE
9532       }%
9533     }%
9534     \@processme
9535   \fi
9536 \fi
9537 }

```

`\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.

```

9538 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9539   \ifx\#2\%
9540     \global\pdfpageattr{#1}%
9541   \else
9542     \Hy@RemoveHidPageAttr#1#4\END
9543   \fi
9544 }

9545 \pdf@ifdraftmode{}{%
9546   \g@addto@macro\Hy@EveryPageHook{%
9547     \hyper@pagetransition
9548     \hyper@pageduration
9549     \hyper@pagehidden
9550   }%
9551 }

```

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

```

9552 \</pdfTeX>
9553 \<{*pdfTeX|xetex>
9554 \Hy@AtBeginDocument{%
9555   \ifHy@setpagesize
9556     \expandafter\@firstofone
9557   \else
9558     \expandafter\@gobble
9559   \fi
9560 }%
9561 \@ifclassloaded{seminar}{%
9562 \<{*pdfTeX>
9563   \setlength{\pdfhorigin}{1truein}%
9564   \setlength{\pdfvorigin}{1truein}%
9565 \</pdfTeX>
9566   \ifportrait
9567     \ifdim\paperwidth=\z@
9568     \else
9569       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9570     \fi
9571     \ifdim\paperheight=\z@

```

```

9572     \else
9573     \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9574     \fi
9575   \else
9576     \ifdim\paperheight=\z@
9577     \else
9578       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9579       \fi
9580     \ifdim\paperwidth=\z@
9581     \else
9582       \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9583       \fi
9584     \fi
9585   }{%
9586     \ltx@ifundefined{stockwidth}{%
9587       \ifdim\paperwidth>\z@
9588         \setlength{\pdfpagewidth}{\paperwidth}%
9589         \fi
9590       \ifdim\paperheight>\z@
9591         \setlength{\pdfpageheight}{\paperheight}%
9592         \fi
9593     }{%
9594       \ifdim\stockwidth>\z@
9595         \setlength{\pdfpagewidth}{\stockwidth}%
9596         \fi
9597       \ifdim\stockheight>\z@
9598         \setlength{\pdfpageheight}{\stockheight}%
9599         \fi
9600     }%
9601   }%
9602 }%
9603 \Hy@DisableOption{setpagesize}%
9604 }
9605 </pdfTeX | xetex>
9606 <*pdfTeX>
9607 \def\Acrobatmenu#1#2{%
9608   \Hy@Acrobatmenu{#1}{#2}{%
9609     \leavevmode
9610     \EdefEscapeName\Hy@temp@menu{#1}%
9611     \pdfstartlink
9612     attr{%
9613       \Hy@setpdfborder
9614       \ifx\@pdfhighlight\@empty
9615       \else
9616         /H\@pdfhighlight
9617       \fi
9618       \ifx\@menubordercolor\relax
9619       \else
9620         /C[\@menubordercolor]%
9621       \fi
9622     }%
9623     user{%
9624       /Subtype/Link%
9625       \ifHy@pdfa /F 4\fi
9626       /A<<%
9627       /S/Named%
9628       /N/\Hy@temp@menu

```

```

9629      \Hy@href@nextactionraw
9630      >>%
9631    }%
9632    \relax
9633    \Hy@colorlink\@menucolor#2%
9634    \close@pdflink
9635  }%
9636 }

```

### 47.2.1 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`.

Since version 2011/10/05 v1.16 of package 'atbegshi' `\AtBeginShipoutFirst` does not add a additional box layer.

```

9637 \def\Hy@FixNotFirstPage{%
9638   \gdef\Hy@FixNotFirstPage{%
9639     \setbox\AtBeginShipoutBox=\hbox{%
9640       \copy\AtBeginShipoutBox
9641     }%
9642   }%
9643 }
9644 \ltx@ifpackagelater{atbegshi}{2011/10/05}{%
9645 }{%
9646   \AtBeginShipout{\Hy@FixNotFirstPage}%
9647 }
9648 \pdfTeX

```

## 47.3 hypertex

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

**href:** `html:<a href = "href_string">`

**name:** `html:<a name = "name_string">`

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

**image:** `html:<img src = "href_string">`

**base\_name:** `html:<base href = "href_string">`

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base\_name* command is be used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The *href* and *name* commands must be paired with an *end* command later in the TeX file — the TeX commands between the two ends of a pair form an

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

```

9649 (*hypertex)
9650 \providecommand*\XR@ext}{dvi}
9651 \let\PDF@FinishDoc\ltx@empty
9652 \def\PDF@SetupDoc{%
9653   \ifx\@baseurl\@empty
9654     \else
9655       \special{html:<base href="\@baseurl">}%
9656     \fi
9657 }
9658 \Hy@WrapperDef\hyper@anchor#1{%
9659   \Hy@SaveLastskip
9660   \Hy@VerboseAnchor{#1}%
9661   \begingroup
9662     \let\protect=\string
9663     \hyper@chars
9664     \special{html:<a name=%
9665       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9666   \endgroup
9667   \Hy@activeanchortrue
9668   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9669   \special{html:</a>}%
9670   \Hy@activeanchorfalse
9671   \Hy@RestoreLastskip
9672 }
9673 \Hy@WrapperDef\hyper@anchorstart#1{%
9674   \Hy@SaveLastskip
9675   \Hy@VerboseAnchor{#1}%
9676   \begingroup
9677     \hyper@chars
9678     \special{html:<a name=%
9679       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9680   \endgroup
9681   \Hy@activeanchortrue
9682 }
9683 \def\hyper@anchorend{%
9684   \special{html:</a>}%
9685   \Hy@activeanchorfalse
9686   \Hy@RestoreLastskip
9687 }
9688 \def\@urltype{url}
9689 \def\hyper@linkstart#1#2{%
9690   \Hy@VerboseLinkStart{#1}{#2}%
9691   \expandafter\Hy@colorlink\csname @#1color\endcsname
9692   \def\Hy@tempa{#1}%
9693   \ifx\Hy@tempa\@urltype
9694     \special{html:<a href=\hyper@quote#2\hyper@quote>}%

```



```

9695 \else
9696   \begingroup
9697     \hyper@chars
9698     \special{html:<a href=%
9699       \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9700   \endgroup
9701 \fi
9702 }
9703 \def\hyper@linkend{%
9704   \special{html:</a>}%
9705   \Hy@endcolorlink
9706 }
9707 \def\hyper@linkfile#1#2#3{%
9708   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9709 }
9710 \def\hyper@linkurl#1#2{%

```

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

```

9711 \leavevmode
9712 \ifHy@raiselinks
9713   \Hy@SaveSpaceFactor
9714   \Hy@SaveSavedSpaceFactor
9715   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9716   \Hy@RestoreSavedSpaceFactor
9717   \@linkdim\dp\@tempboxa
9718   \lower\@linkdim\hbox{%
9719     \hyper@chars
9720     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9721   }%
9722   \Hy@colorlink\@urlcolor
9723   \Hy@RestoreSpaceFactor
9724   #1%
9725   \Hy@SaveSpaceFactor
9726   \@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).

```

9727   \advance\@linkdim by -6.5\p@
9728   \raise\@linkdim\hbox{\special{html:</a>}}%
9729   \Hy@endcolorlink
9730   \Hy@RestoreSpaceFactor
9731 \else
9732   \begingroup
9733     \hyper@chars
9734     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9735     \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9736     \special{html:</a>}%
9737     \Hy@endcolorlink
9738   \endgroup
9739 \fi
9740 }

```

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

```

9741 \def\hyper@link#1#2#3{%
9742   \Hy@VerboseLinkStart{#1}{#2}%

```

```

9743 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
9744 }

9745 \def\hyper@image#1#2{%
9746 \begingroup
9747 \hyper@chars
9748 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9749 \endgroup
9750 }
9751 </hypertex>
9752 <*dviwindo>

```

## 47.4 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,  $\text{\LaTeX}$  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.

```

9753 \providecommand*\XR@ext}{dvi}
9754 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9755 \Hy@WrapperDef\hyper@anchor#1{%
9756 \Hy@SaveLastskip
9757 \Hy@VerboseAnchor{#1}%
9758 \begingroup
9759 \let\protect=\string
9760 \special{mark: #1}%
9761 \endgroup
9762 \Hy@activeanchortrue
9763 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9764 \Hy@activeanchorfalse
9765 \Hy@RestoreLastskip
9766 }
9767 \Hy@WrapperDef\hyper@anchorstart#1{%
9768 \Hy@SaveLastskip
9769 \Hy@VerboseAnchor{#1}%
9770 \special{mark: #1}%
9771 \Hy@activeanchortrue
9772 }
9773 \def\hyper@anchorend{%
9774 \Hy@activeanchorfalse
9775 \Hy@RestoreLastskip
9776 }
9777 \def\hyper@linkstart#1#2{%
9778 \Hy@VerboseLinkStart{#1}{#2}%
9779 \expandafter\Hy@colorlink\csname @#1color\endcsname
9780 \special{button: %
9781 10000000 %
9782 \number\baselineskip\space
9783 #2%
9784 }%

```

```

9785 }
9786 \def\hyper@linkend{%
9787   \Hy@endcolorlink
9788 }
9789 \def\hyper@link#1#2#3{%
9790   \Hy@VerboseLinkStart{#1}{#2}%
9791   \leavevmode
9792   \ifHy@raiselinks
9793     \Hy@SaveSpaceFactor
9794     \Hy@SaveSavedSpaceFactor
9795     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9796     \Hy@RestoreSavedSpaceFactor
9797     \@linkdim\dp\@tempboxa
9798     \lower\@linkdim\hbox{%
9799       \special{button: %
9800         \number\wd\@tempboxa\space
9801         \number\ht\@tempboxa\space
9802         #2%
9803       }%
9804       \expandafter\Hy@colorlink\csname @#1color\endcsname
9805       \Hy@RestoreSpaceFactor
9806       #3\Hy@xspace@end
9807       \Hy@SaveSpaceFactor
9808       \Hy@endcolorlink
9809     }%
9810     \@linkdim\ht\@tempboxa
9811     \advance\@linkdim by -6.5\p@
9812     \raise\@linkdim\hbox{}%
9813     \Hy@RestoreSpaceFactor
9814   \else
9815     \special{button: %
9816       \number\wd\@tempboxa\space
9817       \number\ht\@tempboxa\space
9818       #2%
9819     }%
9820     \expandafter\Hy@colorlink\csname @#1color\endcsname
9821     #3\Hy@xspace@end
9822     \Hy@endcolorlink
9823   \fi
9824 }
9825 \def\hyper@linkurl#1#2{%
9826   \begingroup
9827   \hyper@chars
9828   \leavevmode
9829   \ifHy@raiselinks
9830     \Hy@SaveSpaceFactor
9831     \Hy@SaveSavedSpaceFactor
9832     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9833     \Hy@RestoreSavedSpaceFactor
9834     \@linkdim\dp\@tempboxa
9835     \lower\@linkdim\hbox{%
9836       \special{button: %
9837         \number\wd\@tempboxa\space
9838         \number\ht\@tempboxa\space
9839         launch: \wwwbrowser\space
9840         #2%
9841       }%

```

```

9842 \Hy@colorlink\@urlcolor
9843 \Hy@RestoreSpaceFactor
9844 #1\Hy@xspace@end
9845 \Hy@SaveSpaceFactor
9846 \Hy@endcolorlink
9847 }%
9848 \@linkdim\ht\@tempboxa
9849 \advance\@linkdim by -6.5\p@
9850 \raise\@linkdim\hbox{}%
9851 \Hy@RestoreSpaceFactor
9852 \else
9853 \special{button: %
9854 \number\wd\@tempboxa\space
9855 \number\ht\@tempboxa\space
9856 launch: \wwwbrowser\space
9857 #2%
9858 }%
9859 \Hy@colorlink\@urlcolor
9860 #1\Hy@xspace@end
9861 \Hy@endcolorlink
9862 \fi
9863 \endgroup
9864 }
9865 \def\hyper@linkfile#1#2#3{%
9866 \begingroup
9867 \hyper@chars
9868 \leavevmode
9869 \ifHy@raiselinks
9870 \Hy@SaveSpaceFactor
9871 \Hy@SaveSavedSpaceFactor
9872 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9873 \Hy@RestoreSavedSpaceFactor
9874 \@linkdim\dp\@tempboxa
9875 \lower\@linkdim\hbox{%
9876 \special{button: %
9877 \number\wd\@tempboxa\space
9878 \number\ht\@tempboxa\space
9879 #3,%
9880 file: #2%
9881 }%
9882 \Hy@colorlink\@filecolor
9883 \Hy@RestoreSpaceFactor
9884 #1\Hy@xspace@end
9885 \Hy@SaveSpaceFactor
9886 \Hy@endcolorlink
9887 }%
9888 \@linkdim\ht\@tempboxa
9889 \advance\@linkdim by -6.5\p@
9890 \raise\@linkdim\hbox{}%
9891 \Hy@RestoreSpaceFactor
9892 \else
9893 \special{button: %
9894 \number\wd\@tempboxa\space
9895 \number\ht\@tempboxa\space
9896 #3,%
9897 file: #2%
9898 }%

```

```

9899 \Hy@colorlink\@filecolor
9900 #1\Hy@xspace@end
9901 \Hy@endcolorlink
9902 \fi
9903 \endgroup
9904 }
9905 \ifx\@pdfproducer\relax
9906 \def\@pdfproducer{dviwindo + Distiller}%
9907 \fi
9908 \HyInfo@AddonUnsupportedtrue
9909 \def\PDF@FinishDoc{%
9910 \Hy@UseMaketitleInfos
9911 \HyInfo@TrappedUnsupported
9912 \special{PDF: Keywords \@pdfkeywords}%
9913 \special{PDF: Title \@pdftitle}%
9914 \special{PDF: Creator \@pdfcreator}%
9915 \ifx\@pdfcreationdate\@empty
9916 \else
9917 \special{PDF: CreationDate \@pdfcreationdate}%
9918 \fi
9919 \ifx\@pdfmoddate\@empty
9920 \else
9921 \special{PDF: ModDate \@pdfmoddate}%
9922 \fi
9923 \special{PDF: Author \@pdfauthor}%
9924 \ifx\@pdfproducer\relax
9925 \else
9926 \special{PDF: Producer \@pdfproducer}%
9927 \fi
9928 \special{PDF: Subject \@pdfsubject}%
9929 \Hy@DisableOption{pdfauthor}%
9930 \Hy@DisableOption{pdftitle}%
9931 \Hy@DisableOption{pdfsubject}%
9932 \Hy@DisableOption{pdfcreator}%
9933 \Hy@DisableOption{pdfcreationdate}%
9934 \Hy@DisableOption{pdfmoddate}%
9935 \Hy@DisableOption{pdfproducer}%
9936 \Hy@DisableOption{pdfkeywords}%
9937 \Hy@DisableOption{pdftrapped}%
9938 \Hy@DisableOption{pdfinfo}%
9939 }
9940 \def\PDF@SetupDoc{%
9941 \ifx\@baseurl\@empty
9942 \else
9943 \special{PDF: Base \@baseurl}%
9944 \fi
9945 \ifx\@pdfpagescrop\@empty\else
9946 \special{PDF: BBox \@pdfpagescrop}%
9947 \fi
9948 \def\Hy@temp{}%
9949 \ifx\@pdfstartpage\@empty
9950 \else
9951 \ifx\@pdfstartview\@empty
9952 \else
9953 \edef\Hy@temp{%
9954 ,Page=\@pdfstartpage
9955 ,View=\@pdfstartview

```

```

9956     }%
9957     \fi
9958 \fi
9959 \edef\Hy@temp{%
9960     \noexpand\pdfmark{%
9961         pdfmark=/DOCVIEW,%
9962         PageMode=/\@pdfpagemode
9963         \Hy@temp
9964     }%
9965 }%
9966 \Hy@temp
9967 \ifx\@pdfpagescrop\@empty
9968 \else
9969     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9970 \fi
9971 \edef\Hy@temp{%
9972     \ifHy@pdftoolbar\else /HideToolbar true\fi
9973     \ifHy@pdfmenubar\else /HideMenubar true\fi
9974     \ifHy@pdfwindowui\else /HideWindowUI true\fi
9975     \ifHy@pdffitwindow /FitWindow true\fi
9976     \ifHy@pdfcenterwindow /CenterWindow true\fi
9977     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9978     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9979     \Hy@UseNameKey{Direction}\@pdfdirection
9980     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9981     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9982     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9983     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9984     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9985     \Hy@UseNameKey{Duplex}\@pdfduplex
9986     \ifx\@pdfpicktraybypdfsize\@empty
9987     \else
9988         /PickTrayByPDFSize \@pdfpicktraybypdfsize
9989     \fi
9990     \ifx\@pdfprintpagerange\@empty
9991     \else
9992         /PrintPageRange[\@pdfprintpagerange]%
9993     \fi
9994     \ifx\@pdfnumcopies\@empty
9995     \else
9996         /NumCopies \@pdfnumcopies
9997     \fi
9998 }%
9999 \pdfmark{pdfmark=/PUT,%
10000     Raw={%
10001         \string{Catalog\string}<<%
10002             \ifx\Hy@temp\@empty
10003             \else
10004                 /ViewerPreferences<<\Hy@temp>>%
10005             \fi
10006             \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10007             \ifx\@pdflang\@empty
10008             \else
10009                 /Lang(\@pdflang)%
10010             \fi
10011             >>%
10012         }%

```

```

10013 }%
10014 }
10015 </dviwindo>
10016 <*dvipdfm|xetex>

```

## 47.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

10017 \providecommand*{\XR@ext}{pdf}
10018 \Hy@setbreaklinks{true}
10019 \def\HyPat@ObjRef{%
10020   @[^ ]+%
10021 }
10022 \newsavebox{\pdfm@box}
10023 \def\@pdfm@mark#1{\special{pdf:#1}}
10024 \Hy@WrapperDef\@pdfm@dest#1{%
10025   \Hy@SaveLastskip
10026   \Hy@VerboseAnchor{#1}%
10027   \begingroup
10028     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10029     \def\x{XYZ}%
10030     \ifx\x\@pdfview
10031       \def\x{XYZ @xpos @ypos null}%
10032     \else
10033       \def\x{FitH}%
10034       \ifx\x\@pdfview
10035         \def\x{FitH @ypos}%
10036       \else
10037         \def\x{FitBH}%
10038         \ifx\x\@pdfview
10039           \def\x{FitBH @ypos}%
10040         \else
10041           \def\x{FitV}%
10042           \ifx\x\@pdfview
10043             \def\x{FitV @xpos}%
10044           \else
10045             \def\x{FitBV}%
10046             \ifx\x\@pdfview
10047               \def\x{FitBV @xpos}%
10048             \else
10049               \def\x{Fit}%
10050               \ifx\x\@pdfview
10051                 \let\x\@pdfview
10052               \else
10053                 \def\x{FitB}%
10054                 \ifx\x\@pdfview
10055                   \let\x\@pdfview
10056                 \else
10057                   \def\x{FitR}%
10058                   \ifx\x\@pdfview
10059                     \Hy@Warning{'pdfview=FitR' is not supported}%
10060                     \def\x{XYZ @xpos @ypos null}%
10061                   \else
10062                     \@onelevel@sanitize\@pdfview
10063                     \Hy@Warning{%
10064                       Unknown value '\@pdfview' for pdfview%
10065                   }%

```

```

10066         \def\x{XYZ @xpos @ypos null}%
10067         \fi
10068     \fi
10069 \fi
10070 \fi
10071 \fi
10072 \fi
10073 \fi
10074 \fi
10075 \pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
10076 \endgroup
10077 \Hy@RestoreLastskip
10078 }
10079 \providecommand*\pdfview{XYZ}
10080 \providecommand*\pdfborder{0 0 1}
10081 \providecommand*\pdfborderstyle{}
10082 \def\hyper@anchor#1{%
10083     \pdfm@dest{#1}%
10084 }
10085 \def\hyper@anchorstart#1{%
10086     \Hy@activeanchortrue
10087     \pdfm@dest{#1}%
10088 }
10089 \def\hyper@anchorend{%
10090     \Hy@activeanchorfalse
10091 }
10092 \newcounter{Hy@AnnotLevel}
10093 \ifHy@ocgcolorlinks
10094     \def\OBJ@OCG@view{@OCG@view}%
10095     \pdfm@mark{%
10096         obj \OBJ@OCG@view <<%
10097         /Type/OCG%
10098         /Name(View)%
10099         /Usage<<%
10100         /Print<<%
10101         /PrintState/OFF%
10102         >>%
10103         /View<<%
10104         /ViewState/ON%
10105         >>%
10106         >>%
10107         >>%
10108     }%
10109     \pdfm@mark{close \OBJ@OCG@view}%
10110     \def\OBJ@OCG@print{@OCG@print}%
10111     \pdfm@mark{%
10112         obj \OBJ@OCG@print <<%
10113         /Type/OCG%
10114         /Name(Print)%
10115         /Usage<<%
10116         /Print<<%
10117         /PrintState/ON%
10118         >>%
10119         /View<<%
10120         /ViewState/OFF%
10121         >>%
10122         >>%

```



```

10123 >>%
10124 }%
10125 \@pdfm@mark{close \OBJ@OCG@print}%
10126 \def\OBJ@OCGs{@OCGs}%
10127 \@pdfm@mark{%
10128   obj \OBJ@OCGs [%
10129     \OBJ@OCG@view\space\OBJ@OCG@print
10130   ]%
10131 }%
10132 \@pdfm@mark{close \OBJ@OCGs}%
10133 \@pdfm@mark{%
10134   put @catalog <<%
10135     /OCProperties<<%
10136     /OCGs \OBJ@OCGs
10137     /D<<%
10138     /OFF[\OBJ@OCG@print]%
10139     /AS[%
10140       <<%
10141         /Event/View%
10142         /OCGs \OBJ@OCGs
10143         /Category[/View]%
10144       >>%
10145       <<%
10146         /Event/Print%
10147         /OCGs \OBJ@OCGs
10148         /Category[/Print]%
10149       >>%
10150       <<%
10151         /Event/Export%
10152         /OCGs \OBJ@OCGs
10153         /Category[/Print]%
10154       >>%
10155     ]%
10156   >>%
10157 >>%
10158 >>%
10159 }%
10160 \AtBeginShipout{%
10161   \setbox\AtBeginShipoutBox=\hbox{%
10162     \copy\AtBeginShipoutBox
10163     \@pdfm@mark{%
10164       put @resources <<%
10165         /Properties<<%
10166         /OCView \OBJ@OCG@view
10167         /OCPrint \OBJ@OCG@print
10168       >>%
10169     >>%
10170   }%
10171 }%
10172 }%
10173 \Hy@AtBeginDocument{%
10174   \def\Hy@colorlink#1{%
10175     \begingroup
10176     \ifHy@ocgcolorlinks
10177       \def\Hy@ocgcolor{#1}%
10178       \setbox0=\hbox\bgroup\color@begingroup
10179     \else

```

```

10180      \HyColor@UseColor#1%
10181      \fi
10182    }%
10183    \def\Hy@endcolorlink{%
10184      \ifHy@ocgcolorlinks
10185        \color@endgroup\egroup
10186        \mbox{%
10187          \@pdfm@mark{content /OC/OCPrint BDC}%
10188          \rlap{\copy0}%
10189          \@pdfm@mark{content EMC/OC/OCView BDC}%
10190          \begingroup
10191            \expandafter\HyColor@UseColor\Hy@ocgcolor
10192            \box0 %
10193          \endgroup
10194          \@pdfm@mark{content EMC}%
10195        }%
10196      \fi
10197    \endgroup
10198  }%
10199 }%
10200 \else
10201   \Hy@DisableOption{ocgcolorlinks}%
10202 \fi

10203 \def\Hy@BeginAnnot#1{%
10204   \stepcounter{Hy@AnnotLevel}%
10205   \ifnum\value{Hy@AnnotLevel}=\@ne
10206     #1%
10207   \fi
10208 }

10209 \def\Hy@endAnnot{%
10210   \ifnum\value{Hy@AnnotLevel}=\@ne
10211     \Hy@endcolorlink
10212     \@pdfm@mark{eann}%
10213   \fi
10214   \addtocounter{Hy@AnnotLevel}\m@ne
10215 }

10216 \def\Hy@undefinedname{UNDEFINED}
10217 \def\hyper@linkstart#1#2{%
10218   \Hy@VerboseLinkStart{#1}{#2}%
10219   \leavevmode
10220   \Hy@BeginAnnot{%
10221     \protected@edef\Hy@testname{#2}%
10222     \ifx\Hy@testname\@empty
10223       \Hy@Warning{%
10224         Empty destination name,\MessageBreak
10225         using '\Hy@undefinedname'%
10226       }%
10227     \let\Hy@testname\Hy@undefinedname
10228   \else
10229     \Hy@pstringdef\Hy@testname{%
10230       \expandafter\HyperDestNameFilter\expandafter{%
10231         \Hy@testname
10232       }%
10233     }%
10234   \fi
10235   \@pdfm@mark{%
10236     bann<<%

```

```

10237 /Type/Annot%
10238 /Subtype/Link%
10239 \ifHy@pdfa /F 4\fi
10240 \Hy@setpdfborder
10241 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
10242 \else
10243 /C[\csname @#1bordercolor\endcsname]%
10244 \fi
10245 /A<<%
10246 /S/GoTo%
10247 /D(\Hy@testname)%
10248 \Hy@href@nextactionraw
10249 >>%
10250 >>%
10251 }%
10252 \expandafter\Hy@colorlink\csname @#1color\endcsname
10253 }%
10254 }
10255 \def\hyper@linkend{\Hy@EndAnnot}%
10256 \def\hyper@link#1#2#3{%
10257 \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10258 }
10259 \def\hyper@linkfile#1#2#3{%
10260 \leavevmode
10261 \Hy@BeginAnnot{%
10262 \def\Hy@pstringF{#2}%
10263 \Hy@CleanupFile\Hy@pstringF
10264 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10265 \Hy@pstringdef\Hy@pstringD{#3}%
10266 \Hy@MakeRemoteAction
10267 \@pdfm@mark{%
10268 bann<<%
10269 /Type/Annot%
10270 /Subtype/Link%
10271 \ifHy@pdfa /F 4\fi
10272 \Hy@setpdfborder
10273 \ifx\@filebordercolor\relax
10274 \else
10275 /C[\@filebordercolor]%
10276 \fi
10277 /A<<%
10278 /S/GoToR%
10279 /F(\Hy@pstringF)%
10280 /D%
10281 \ifx\#3\%
10282 [\Hy@href@page\@pdfremotestartview]%
10283 \else
10284 (\Hy@pstringD)%
10285 \fi
10286 \Hy@SetNewWindow
10287 \Hy@href@nextactionraw
10288 >>%
10289 >>%
10290 }%
10291 \Hy@colorlink\@filecolor
10292 }%
10293 #1\Hy@xspace@end

```

```

10294 \Hy@EndAnnot
10295 }
10296 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text linkname
10297 \leavevmode
10298 \Hy@BeginAnnot{%
10299 \Hy@pstringdef\Hy@pstringF{#1}%
10300 \Hy@pstringdef\Hy@pstringP{#3}%
10301 \@pdfm@mark{%
10302 bann<<%
10303 /Type/Annot%
10304 /Subtype/Link%
10305 \ifHy@pdfa /F 4\fi
10306 \Hy@setpdfborder
10307 \ifx\@runbordercolor\relax
10308 \else
10309 /C[\@runbordercolor]%
10310 \fi
10311 /A<<%
10312 /F(\Hy@pstringF)%
10313 /S/Launch%
10314 \Hy@SetNewWindow
10315 \ifx\\#3\\%
10316 \else
10317 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10318 \fi
10319 \Hy@href@nextactionraw
10320 >>%
10321 >>%
10322 }%
10323 \Hy@colorlink\@runcolor
10324 }%
10325 #2\Hy@xspace@end
10326 \Hy@EndAnnot
10327 }
10328 \def\hyper@linkurl#1#2{%
10329 \leavevmode
10330 \Hy@BeginAnnot{%
10331 \Hy@pstringdef\Hy@pstringURI{#2}%
10332 \@pdfm@mark{%
10333 bann<<%
10334 /Type/Annot%
10335 /Subtype/Link%
10336 \ifHy@pdfa /F 4\fi
10337 \Hy@setpdfborder
10338 \ifx\@urlbordercolor\relax
10339 \else
10340 /C[\@urlbordercolor]%
10341 \fi
10342 /A<<%
10343 /S/URI%
10344 /URI(\Hy@pstringURI)%
10345 \ifHy@href@ismap
10346 /IsMap true%
10347 \fi
10348 \Hy@href@nextactionraw
10349 >>%
10350 >>%

```

```

10351 }%
10352 \Hy@colorlink\@urlcolor
10353 }%
10354 #1\Hy@xspace@end
10355 \Hy@EndAnnot
10356 }
10357 \def\Acrobatmenu#1#2{%
10358 \Hy@Acrobatmenu{#1}{#2}{%
10359 \Hy@BeginAnnot{%
10360 \EdefEscapeName\Hy@temp@menu{#1}%
10361 \@pdfm@mark{%
10362 bann<<%
10363 /Type/Annot%
10364 /Subtype/Link%
10365 \ifHy@pdfa /F 4\fi
10366 \Hy@setpdfborder
10367 \ifx\@menubordercolor\relax
10368 \else
10369 /C[\@menubordercolor]%
10370 \fi
10371 /A<<%
10372 /S/Named%
10373 /N/\Hy@temp@menu
10374 \Hy@href@nextactionraw
10375 >>%
10376 >>%
10377 }%
10378 \Hy@colorlink\@menucolor
10379 }%
10380 #2\Hy@xspace@end
10381 \Hy@EndAnnot
10382 }%
10383 }
10384 \ifx\@pdfproducer\relax
10385 \def\@pdfproducer{dvipdfm}%

```

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

```

10386 \begingroup\expandafter\expandafter\expandafter\endgroup
10387 \expandafter\ifx\csname XeTeXversion\endcsname\relax
10388 \else
10389 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10390 \fi
10391 \fi
10392 \def\PDF@FinishDoc{%
10393 \Hy@UseMaketitleInfos
10394 \HyInfo@GenerateAddons
10395 \@pdfm@mark{%
10396 docinfo<<%
10397 /Title(\@pdftitle)%
10398 /Subject(\@pdfsubject)%
10399 /Creator(\@pdfcreator)%
10400 \ifx\@pdfcreationdate\@empty
10401 \else
10402 /CreationDate(\@pdfcreationdate)%
10403 \fi
10404 \ifx\@pdfmoddate\@empty
10405 \else
10406 /ModDate(\@pdfmoddate)%

```

```

10407 \fi
10408 /Author(\@pdfauthor)%
10409 \ifx\@pdfproducer\relax
10410 \else
10411 /Producer(\@pdfproducer)%
10412 \fi
10413 /Keywords(\@pdfkeywords)%
10414 \ifx\@pdftrapped\@empty
10415 \else
10416 /Trapped/\@pdftrapped
10417 \fi
10418 \HyInfo@Addons
10419 >>%
10420 }%
10421 \Hy@DisableOption{pdfauthor}%
10422 \Hy@DisableOption{pdftitle}%
10423 \Hy@DisableOption{pdfsubject}%
10424 \Hy@DisableOption{pdfcreator}%
10425 \Hy@DisableOption{pdfcreationdate}%
10426 \Hy@DisableOption{pdfmoddate}%
10427 \Hy@DisableOption{pdfproducer}%
10428 \Hy@DisableOption{pdfkeywords}%
10429 \Hy@DisableOption{pdftrapped}%
10430 \Hy@DisableOption{pdfinfo}%
10431 }
10432 \def\PDF@SetupDoc{%
10433 \edef\Hy@temp{%
10434 \ifHy@pdftoolbar\else /HideToolbar true\fi
10435 \ifHy@pdfmenubar\else /HideMenubar true\fi
10436 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10437 \ifHy@pdfwindow /FitWindow true\fi
10438 \ifHy@pdfcenterwindow /CenterWindow true\fi
10439 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10440 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10441 \Hy@UseNameKey{Direction}\@pdfdirection
10442 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10443 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10444 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10445 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10446 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10447 \Hy@UseNameKey{Duplex}\@pdfduplex
10448 \ifx\@pdfpicktraybypdfsize\@empty
10449 \else
10450 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10451 \fi
10452 \ifx\@pdfprintpagerange\@empty
10453 \else
10454 /PrintPageRange[\@pdfprintpagerange]%
10455 \fi
10456 \ifx\@pdfnumcopies\@empty
10457 \else
10458 /NumCopies \@pdfnumcopies
10459 \fi
10460 }%
10461 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10462 \@pdfm@mark{%
10463 docview<<%

```

```

10464 \ifx\@pdfstartpage\@empty
10465 \else
10466 \ifx\@pdfstartview\@empty
10467 \else
10468 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10469 \fi
10470 \fi
10471 \ifx\@baseurl\@empty
10472 \else
10473 /URI<</Base(\Hy@pstringB)>>%
10474 \fi
10475 /PageMode/\@pdfpagemode
10476 \ifx\Hy@temp\@empty
10477 \else
10478 /ViewerPreferences<<\Hy@temp>>%
10479 \fi
10480 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10481 \ifx\@pdflang\@empty
10482 \else
10483 /Lang(\@pdflang)%
10484 \fi
10485 >>%
10486 }%
10487 \ifx\@pdfpagescrop\@empty
10488 \else
10489 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10490 \fi
10491 }
10492 </dvipdfm | xetex>
10493 < *dvipdfm | xetex>

```

\hyper@pagetransition

```

10494 \def\hyper@pagetransition{%
10495 \ifx\@pdfpagetransition\relax
10496 \else
10497 \ifx\@pdfpagetransition\@empty
10498 \else
10499 \special{pdf:put @thispage %
10500 <</Trans<</S/\@pdfpagetransition>>>>%
10501 }%
10502 \fi
10503 \fi
10504 }

```

\hyper@pageduration

```

10505 \def\hyper@pageduration{%
10506 \ifx\@pdfpageduration\relax
10507 \else
10508 \ifx\@pdfpageduration\@empty
10509 \else
10510 \special{pdf:put @thispage %
10511 <</Dur \@pdfpageduration>>>>%
10512 }%
10513 \fi
10514 \fi
10515 }

```

`\hyper@pagehidden`

```

10516 \def\hyper@pagehidden{%
10517   \ifHy@useHidKey
10518     \special{pdf:put @thispage %
10519       <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10520     }%
10521   \fi
10522 }

10523 \g@addto@macro\Hy@EveryPageBoxHook{%
10524   \hyper@pagetransition
10525   \hyper@pageduration
10526   \hyper@pagehidden
10527 }

10528 </dvipdfm | xetex>

```

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

```

10529 <*dvipdfm>
10530 \AtBeginShipoutFirst{%
10531   \ifHy@setpagesize
10532     \begingroup
10533       \@ifundefined{stockwidth}{-%
10534         \ifdim\paperwidth>\z@
10535           \ifdim\paperheight>\z@
10536             \special{papersize=\the\paperwidth,\the\paperheight}%
10537           \fi
10538         \fi
10539       }{%
10540         \ifdim\stockwidth>\z@
10541           \ifdim\stockheight>\z@
10542             \special{papersize=\the\stockwidth,\the\stockheight}%
10543           \fi
10544         \fi
10545       }%
10546     \endgroup
10547   \fi
10548   \Hy@DisableOption{setpagesize}%
10549 }
10550 </dvipdfm>

```

## 47.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

10551 <*vtexhtml>
10552 \providecommand*\XR@ext}{htm}
10553 \RequirePackage{vtexhtml}
10554 \newif\if@Localurl
10555 \let\PDF@FinishDoc\ltx@empty
10556 \def\PDF@SetupDoc{%
10557   \ifx\@baseurl\@empty
10558     \else
10559       \special{!direct <base href="\@baseurl">}%
10560     \fi
10561 }
10562 \def\@urltype{url}

```



```

10563 \def\hyper@link#1#2#3{%
10564   \Hy@VerboseLinkStart{#1}{#2}%
10565   \leavevmode
10566   \special{!direct <a href=%
10567     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10568   #3\Hy@xspace@end
10569   \special{!direct </a>}%
10570 }
10571 \def\hyper@linkurl#1#2{%
10572   \begingroup
10573   \hyper@chars
10574   \leavevmode
10575   \MathBSuppress=1\relax
10576   \special{!direct <a href=%
10577     \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10578   #1\Hy@xspace@end
10579   \MathBSuppress=0\relax
10580   \special{!direct </a>}%
10581   \endgroup
10582 }
10583 \def\hyper@linkfile#1#2#3{%
10584   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10585 }
10586 \def\hyper@linkstart#1#2{%
10587   \Hy@VerboseLinkStart{#1}{#2}%
10588   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
10589     \@Localurltrue
10590     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10591   \else
10592     \@Localurlfalse
10593   \begingroup
10594     \hyper@chars
10595     \special{!aref \HyperDestNameFilter{#2}}%
10596   \endgroup
10597   \fi
10598 }
10599 \def\hyper@linkend{%
10600   \if@Localurl
10601     \special{!endaref}%
10602   \else
10603     \special{!direct </a>}%
10604   \fi
10605 }
10606 \Hy@WrapperDef\hyper@anchorstart#1{%
10607   \Hy@SaveLastskip
10608   \Hy@VerboseAnchor{#1}%
10609   \begingroup
10610     \hyper@chars
10611     \special{!aname #1}%
10612     \special{!direct <a name=%
10613       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10614   \endgroup
10615   \Hy@activeanchortrue
10616 }
10617 \def\hyper@anchorend{%
10618   \special{!direct </a>}%
10619   \Hy@activeanchorfalse

```

```

10620 \Hy@RestoreLastskip
10621 }
10622 \Hy@WrapperDef\hyper@anchor#1{%
10623 \Hy@SaveLastskip
10624 \Hy@VerboseAnchor{#1}%
10625 \begingroup
10626 \let\protect=\string
10627 \hyper@chars
10628 \leavevmode
10629 \special{!aname #1}%
10630 \special{!direct <a name=%
10631 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10632 \endgroup
10633 \Hy@activeanchortrue
10634 \bgroup\anchor@spot\egroup
10635 \special{!direct </a>}%
10636 \Hy@activeanchorfalse
10637 \Hy@RestoreLastskip
10638 }
10639 \def\@Form[#1]{%
10640 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10641 }
10642 \let\@endForm\ltx@empty
10643 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10644 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10645 }
10646 \def\@TextField[#1]#2{% parameters, label
10647 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10648 }
10649 \def\@CheckBox[#1]#2{% parameters, label
10650 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10651 }
10652 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10653 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10654 }
10655 \def\@PushButton[#1]#2{% parameters, label
10656 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10657 }
10658 \def\@Reset[#1]#2{%
10659 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10660 }
10661 \def\@Submit[#1]#2{%
10662 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10663 }
10664 </vtexhtml>
10665 <*\vtex>

VTeX version 6.68 supports \mediawidth and \mediaheight. The \ifx construct
is better than a \curname, because it avoids the definition and the hash table entry
of a previous undefined macro.
10666 \ifx\mediaheight\@undefined
10667 \else
10668 \ifx\mediaheight\relax
10669 \else
10670 \ifHy@setpagesize
10671 \providecommand*{\VTeXInitMediaSize}{%
10672 \ltx@ifundefined{stockwidth}{%

```

```

10673      \ifdim\paperheight>0pt %
10674      \setlength\mediaheight\paperheight
10675      \fi
10676      \ifdim\paperheight>0pt %
10677      \setlength\mediawidth\paperwidth
10678      \fi
10679    }{%
10680      \ifdim\stockheight>0pt %
10681      \setlength\mediaheight\stockheight
10682      \fi
10683      \ifdim\stockwidth>0pt %
10684      \setlength\mediawidth\stockwidth
10685      \fi
10686    }%
10687  }%
10688  \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10689  \fi
10690  \Hy@DisableOption{setpagesize}%
10691  \fi
10692  \fi

```

Older versions of VTeX require xyz in lower case.

```

10693 \providecommand*\@pdfview{xyz}
10694 \providecommand*\@pdfborder{0 0 1}
10695 \providecommand*\@pdfborderstyle{}
10696 \let\CurrentBorderColor\@linkbordercolor
10697 \Hy@WrapperDef\hyper@anchor#1{%
10698   \Hy@SaveLastskip
10699   \Hy@VerboseAnchor{#1}%
10700   \begingroup
10701     \let\protect=\string
10702     \hyper@chars
10703     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10704   \endgroup
10705   \Hy@activeanchortrue
10706   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10707   \Hy@activeanchorfalse
10708   \Hy@RestoreLastskip
10709 }
10710 \Hy@WrapperDef\hyper@anchorstart#1{%
10711   \Hy@SaveLastskip
10712   \Hy@VerboseAnchor{#1}%
10713   \begingroup
10714     \hyper@chars
10715     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10716   \endgroup
10717   \Hy@activeanchortrue
10718 }
10719 \def\hyper@anchorend{%
10720   \Hy@activeanchorfalse
10721   \Hy@RestoreLastskip
10722 }
10723 \def\@urltype{url}
10724 \def\Hy@undefinedname{UNDEFINED}
10725 \def\hyper@linkstart#1#2{%
10726   \Hy@VerboseLinkStart{#1}{#2}%
10727   \Hy@pstringdef\Hy@pstringURI{#2}%
10728   \expandafter\Hy@colorlink\csname @#1color\endcsname

```

```

10729 \ltx@ifundefined{@#1bordercolor}{%
10730 \let\CurrentBorderColor\relax
10731 }{%
10732 \edef\CurrentBorderColor{%
10733 \csname @#1bordercolor\endcsname
10734 }%
10735 }%
10736 \def\Hy@tempa{#1}%
10737 \ifx\Hy@tempa\@urltype
10738 \special{!%
10739 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10740 \ifHy@href@ismap
10741 /IsMap true%
10742 \fi
10743 \Hy@href@nextactionraw
10744 >,%
10745 a=<%
10746 \ifHy@pdfa /F 4\fi
10747 \Hy@setpdfborder
10748 \ifx\CurrentBorderColor\relax
10749 \else
10750 /C [\CurrentBorderColor]%
10751 \fi
10752 >%
10753 }%
10754 \else
10755 \protected@edef\Hy@testname{#2}%
10756 \ifx\Hy@testname\@empty
10757 \Hy@Warning{%
10758 Empty destination name,\MessageBreak
10759 using '\Hy@undefinedname'%
10760 }%
10761 \let\Hy@testname\Hy@undefinedname
10762 \fi
10763 \special{!%
10764 aref \expandafter\HyperDestNameFilter
10765 \expandafter{\Hy@testname};%
10766 a=<%
10767 \ifHy@pdfa /F 4\fi
10768 \Hy@setpdfborder
10769 \ifx\CurrentBorderColor\relax
10770 \else
10771 /C [\CurrentBorderColor]%
10772 \fi
10773 >%
10774 }%
10775 \fi
10776 }
10777 \def\hyper@linkend{%
10778 \special{!endaref}%
10779 \Hy@endcolorlink
10780 }
10781 \def\hyper@linkfile#1#2#3{%
10782 \leavevmode
10783 \def\Hy@pstringF{#2}%
10784 \Hy@CleanupFile\Hy@pstringF
10785 \special{!%

```

```

10786   aref <%
10787     \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
10788     f=\Hy@pstringF>#3;%
10789     a=<%
10790       \ifHy@pdfa /F 4\fi
10791       \Hy@setpdfborder
10792       \ifx\@filebordercolor\relax
10793       \else
10794         /C [\@filebordercolor]%
10795       \fi
10796     >%
10797   }%
10798   \Hy@colorlink\@filecolor
10799   #1\Hy@xspace@end
10800   \Hy@endcolorlink
10801   \special{!endaref}%
10802 }
10803 \def\hyper@linkurl#1#2{%
10804   \begingroup
10805     \Hy@pstringdef\Hy@pstringURI{#2}%
10806     \hyper@chars
10807     \leavevmode
10808     \special{!%
10809       aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10810       \ifHy@href@ismap
10811       /IsMap true%
10812     \fi
10813     \Hy@href@nextactionraw
10814     >,%
10815     a=<%
10816       \ifHy@pdfa /F 4\fi
10817       \Hy@setpdfborder
10818       \ifx\@urlbordercolor\relax
10819       \else
10820         /C [\@urlbordercolor]%
10821       \fi
10822     >%
10823   }%
10824   \Hy@colorlink\@urlcolor
10825   #1\Hy@xspace@end
10826   \Hy@endcolorlink
10827   \special{!endaref}%
10828   \endgroup
10829 }
10830 \def\hyper@link#1#2#3{%
10831   \Hy@VerboseLinkStart{#1}{#2}%
10832   \ltx@ifundefined{@#1bordercolor}{%
10833     \let\CurrentBorderColor\relax
10834   }{%
10835     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10836   }%
10837   \leavevmode
10838   \protected@edef\Hy@testname{#2}%
10839   \ifx\Hy@testname\@empty
10840     \Hy@Warning{%
10841       Empty destination name,\MessageBreak
10842       using '\Hy@undefinedname'%

```

```

10843 }%
10844 \let\Hy@testname\Hy@undefinedname
10845 \fi
10846 \special{!%
10847   aref \expandafter\HyperDestNameFilter
10848     \expandafter{\Hy@testname};%
10849   a=<%
10850     \ifHy@pdfa /F 4\fi
10851     \Hy@setpdfborder
10852     \ifx\CurrentBorderColor\relax
10853     \else
10854       /C [\CurrentBorderColor]%
10855     \fi
10856   >%
10857 }%
10858 \expandafter
10859 \Hy@colorlink\csname @#1color\endcsname
10860   #3\Hy@xspace@end
10861 \Hy@endcolorlink
10862 \special{!endaref}%
10863 }
10864 \def\hyper@image#1#2{%
10865   \hyper@linkurl{#2}{#1}%
10866 }
10867 \def\@hyper@launch run:#1\#2#3{%
10868   \Hy@pstringdef\Hy@pstringF{#1}%
10869   \Hy@pstringdef\Hy@pstringP{#3}%
10870   \leavevmode
10871   \special{!aref %
10872     <u=%
10873       /Type/Action%
10874       /S/Launch%
10875       /F(\Hy@pstringF)%
10876       \Hy@SetNewWindow
10877       \ifx\#3\%
10878       \else
10879         /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10880       \fi
10881       \Hy@href@nextactionraw
10882     >,%
10883     a=<%
10884       \ifHy@pdfa /F 4\fi
10885       \Hy@setpdfborder
10886       \ifx\@runbordercolor\relax
10887       \else
10888         /C[\@runbordercolor]%
10889       \fi
10890     >%
10891   }%
10892   \Hy@colorlink\@runcolor
10893   #2\Hy@xspace@end
10894   \Hy@endcolorlink
10895   \special{!endaref}%
10896 }
10897 \def\Acrobatmenu#1#2{%
10898   \EdefEscapeName\Hy@temp@menu{#1}%
10899   \Hy@Acrobatmenu{#1}{#2}%

```

```

10900 \special{!%
10901   \def <u=/S /Named /N /\Hy@temp@menu>;%
10902   a=<%
10903     \ifHy@pdfa /F 4\fi
10904     \Hy@setpdfborder
10905     \ifx\@menubordercolor\relax
10906     \else
10907       /C[\@menubordercolor]%
10908     \fi
10909   >%
10910 }%
10911 \Hy@colorlink\@menucolor
10912 #2\Hy@xspace@end
10913 \Hy@endcolorlink
10914 \special{!endaref}%
10915 }%
10916 }

```

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

The code below makes sense for VTeX 7.02 or later.

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

```

10917 \ifnum\Hy@VTeXversion<702 %
10918 \else
10919 \def\hyper@pagetransition{%
10920 \ifx\@pdfpagetransition\relax
10921 \else
10922 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

10923 \else
10924 \hvtex@parse@trans\@pdfpagetransition
10925 \fi
10926 \fi
10927 }%

```

I have to write an “honest” parser to convert raw PDF code into VTeX \special. (AVK)

Syntax of VTeX \special{!trans <transition\_effect>}:</p>
</div>

```

<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:

```

10928 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10929 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%

```

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```

10930 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10931 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10932 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10933 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10934 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10935 \def\hvtex@par@dimension{/Dm}%
10936 \def\hvtex@par@direction{/Di}%
10937 \def\hvtex@par@duration{/D}%
10938 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

10939 \def\hvtex@gettoken{%
10940   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10941 }%

```

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

```

10942 \def\hvtex@gettoken@#1 #2\@nil{%
10943   \edef\hvtex@token{#1}%
10944   \edef\hvtex@buffer{#2}%
10945 }%
10946 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10947 \let\hvtex@trans@code\@empty
10948 \let\hvtex@param@dimension\@empty
10949 \let\hvtex@param@direction\@empty
10950 \let\hvtex@param@duration\@empty
10951 \let\hvtex@param@motion\@empty
10952 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10953 \hvtex@gettoken
10954 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10955 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10956 \else
10957   \hvtex@gettoken
10958 \fi
10959 \fi
10960 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

10961 \hvtex@trans@params
10962 }%

```

Reentrant macro to parse optional parameters.

```

10963 \def\hvtex@trans@params{%
10964   \ifx\hvtex@buffer\@empty
10965   \else
10966     \hvtex@gettoken
10967     \let\hvtex@trans@par\hvtex@token
10968     \ifx\hvtex@buffer\@empty
10969     \else
10970       \hvtex@gettoken
10971       \ifx\hvtex@trans@par\hvtex@par@duration

```



/D is the effect duration in seconds. V<sub>T</sub>E<sub>X</sub> special takes it in milliseconds.

```

10972      \let\hvtex@param@duration\hvtex@token
10973      \else \ifx\hvtex@trans@par\hvtex@par@motion
/M can be either /I or /O
10974      \expandafter\edef\expandafter\hvtex@param@motion
10975      \expandafter{\expandafter\@gobble\hvtex@token}%
10976      \else \ifx\hvtex@trans@par\hvtex@par@dimension
/Dm can be either /H or /V
10977      \expandafter\edef\expandafter\hvtex@param@dimension
10978      \expandafter{\expandafter\@gobble\hvtex@token}%
10979      \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).

```

10980      \let\hvtex@param@direction\hvtex@token
10981      \fi\fi\fi\fi
10982      \fi
10983      \fi
10984      \ifx\hvtex@buffer\@empty
10985      \let\next\hvtex@produce@trans
10986      \else
10987      \let\next\hvtex@trans@params
10988      \fi
10989      \next
10990  }%

```

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

```

10991  \def\hvtex@produce@trans{%
10992    \let\vtex@trans@special\@empty
10993    \if S\hvtex@trans@code
10994      \edef\vtex@trans@special{\hvtex@trans@code
10995        \hvtex@param@dimension\hvtex@param@motion}%
10996    \else\if B\hvtex@trans@code
10997      \edef\vtex@trans@special{%
10998        \hvtex@trans@code\hvtex@param@dimension
10999      }%
11000    \else\if X\hvtex@trans@code
11001      \edef\vtex@trans@special{%
11002        \hvtex@trans@code\hvtex@param@motion
11003      }%
11004    \else\if W\hvtex@trans@code
11005      \edef\vtex@trans@special{%
11006        \hvtex@trans@code\hvtex@param@direction
11007      }%
11008    \else\if D\hvtex@trans@code
11009      \let\vtex@trans@special\hvtex@trans@code
11010    \else\if R\hvtex@trans@code
11011      \let\vtex@trans@special\hvtex@trans@code
11012    \else\if G\hvtex@trans@code
11013      \edef\vtex@trans@special{%
11014        \hvtex@trans@code\hvtex@param@direction
11015      }%
11016    \fi\fi\fi\fi\fi\fi
11017    \ifx\vtex@trans@special\@empty
11018      \else
11019      \ifx\hvtex@param@duration\@empty

```

```

11020 \else
11021 \setlength{\dimen@}{\hvtex@param@duration\p@}%
I'm not guilty of possible overflow.
11022 \multiply\dimen@ \@m
11023 \edef\vtex@trans@special{%
11024 \vtex@trans@special,\strip@pt\dimen@
11025 }%
11026 \fi

```

And all the mess is just for this.

```

11027 \special{!trans \vtex@trans@special}%
11028 \fi
11029 }%

11030 \def\hyper@pageduration{%
11031 \ifx\@pdfpageduration\relax
11032 \else
11033 \ifx\@pdfpageduration\@empty
11034 \special{!duration-}%
11035 \else
11036 \special{!duration \@pdfpageduration}%
11037 \fi
11038 \fi
11039 }%
11040 \def\hyper@pagehidden{%
11041 \ifHy@useHidKey
11042 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
11043 \fi
11044 }%
11045 \g@addto@macro\Hy@EveryPageBoxHook{%
11046 \hyper@pagetransition
11047 \hyper@pageduration
11048 \hyper@pagehidden
11049 }%
11050 \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

```

11051 \ifx\@pdfproducer\relax
11052 \def\@pdfproducer{VTeX}%
11053 \ifnum\Hy@VTeXversion>\z@
11054 \count@\VTeXversion
11055 \divide\count@ 100 %
11056 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
11057 \multiply\count@ -100 %
11058 \advance\count@\VTeXversion
11059 \edef\@pdfproducer{%
11060 \@pdfproducer
11061 .\ifnum\count@<10 0\fi\the\count@

```

```

11062 \ifx\VTeXOS\@undefined\else
11063 \ifnum\VTeXOS>0 %
11064 \ifnum\VTeXOS<6 %
11065 \space(
11066 \ifcase\VTeXOS
11067 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
11068 \fi
11069 )%
11070 \fi
11071 \fi
11072 \fi
11073 ,\space
11074 \ifnum\OpMode=\@one PDF\else PS\fi
11075 \space backend%
11076 \ifx\gexmode\@undefined\else
11077 \ifnum\gexmode>\z@\space with GeX\fi
11078 \fi
11079 }%
11080 \fi
11081 \fi

```

Current `!pdfinfo` key syntax:

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

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

```

11082 \def\PDF@SetupDoc{%
11083 \ifx\@pdfpagescrop\@empty
11084 \else
11085 \special{!pdfinfo b=<\@pdfpagescrop>}%
11086 \fi
11087 \ifx\@pdfstartpage\@empty
11088 \else
11089 \ifx\@pdfstartview\@empty
11090 \else
11091 \special{!onopen Page\@pdfstartpage}%
11092 \fi
11093 \fi
11094 \special{!pdfinfo p=</\@pdfpagemode>}%
11095 \ifx\@baseurl\@empty
11096 \else
11097 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
11098 \fi
11099 \special{!pdfinfo v=<<<%
11100 \ifHy@pdftoolbar\else /HideToolbar true\fi
11101 \ifHy@pdfmenubar\else /HideMenubar true\fi
11102 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11103 \ifHy@pdfwindow /FitWindow true\fi

```

```

11104 \ifHy@pdfcenterwindow /CenterWindow true\fi
11105 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11106 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11107 \Hy@UseNameKey{Direction}\@pdfdirection
11108 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11109 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11110 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11111 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11112 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11113 \Hy@UseNameKey{Duplex}\@pdfduplex
11114 \ifx\@pdfpicktraybypdfsize\@empty
11115 \else
11116 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11117 \fi
11118 \ifx\@pdfprintpagerange\@empty
11119 \else
11120 /PrintPageRange[\@pdfprintpagerange]%
11121 \fi
11122 \ifx\@pdfnumcopies\@empty
11123 \else
11124 /NumCopies \@pdfnumcopies
11125 \fi
11126 >>>}%
11127 \ifx\@pdfpagelayout\@empty
11128 \else
11129 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
11130 \fi
11131 }%
11132 \HyInfo@AddonUnsupportedtrue
11133 \define@key{Hyp}{pdfcreationdate}{%
11134 \Hy@Warning{%
11135 VTeX does not support pdfcreationdate.\MessageBreak
11136 Therefore its setting is ignored%
11137 }%
11138 }
11139 \define@key{Hyp}{pdfmoddate}{%
11140 \Hy@Warning{%
11141 VTeX does not support pdfmoddate.\MessageBreak
11142 Therefore its setting is ignored%
11143 }%
11144 }
11145 \def\PDF@FinishDoc{%
11146 \Hy@UseMaketitleInfos
11147 \HyInfo@TrappedUnsupported
11148 \special{!pdfinfo a=<\@pdfauthor>}%
11149 \special{!pdfinfo t=<\@pdftitle>}%
11150 \special{!pdfinfo s=<\@pdfsubject>}%
11151 \special{!pdfinfo c=<\@pdfcreator>}%
11152 \ifx\@pdfproducer\relax
11153 \else
11154 \special{!pdfinfo r=<\@pdfproducer>}%
11155 \fi
11156 \special{!pdfinfo k=<\@pdfkeywords>}%
11157 \Hy@DisableOption{pdfauthor}%
11158 \Hy@DisableOption{pdftitle}%
11159 \Hy@DisableOption{pdfsubject}%
11160 \Hy@DisableOption{pdfcreator}%

```

```

11161 \Hy@DisableOption{pdfcreationdate}%
11162 \Hy@DisableOption{pdfmoddate}%
11163 \Hy@DisableOption{pdfproducer}%
11164 \Hy@DisableOption{pdfkeywords}%
11165 \Hy@DisableOption{pdftrapped}%
11166 \Hy@DisableOption{pdfinfo}%
11167 }
11168 </vtx>

```

## 47.7 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.

```

11169 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
11170 <package>\providecommand*{\Hy@DistillerDestFix}{%
11171 <*pdfmark | dviwindo>
11172 \def\Hy@DistillerDestFix{%
11173 \begingroup
11174 \let\x\literalps@out

```

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

```

11175 \ifnum \@ifundefined{OpMode}{0}{%
11176 \@ifundefined{gexmode}{0}{%
11177 \ifnum\gexmode>0 \OpMode\else 0\fi
11178 }>1 %
11179 \def\x##1{%
11180 \immediate\special{!=##1}%
11181 }%
11182 \fi
11183 \x{%
11184 /product where{%
11185 pop %
11186 product(Distiller)search{%
11187 pop pop pop %
11188 version(.)search{%
11189 exch pop exch pop%
11190 (3011)eq{%
11191 gsave %
11192 newpath 0 0 moveto closepath clip%
11193 /Courier findfont 10 scalefont setfont %
11194 72 72 moveto(.)show %
11195 grestore%
11196 }if%
11197 }{pop}ifelse%
11198 }{pop}ifelse%
11199 }if%
11200 }%
11201 \endgroup
11202 }

```

11203  $\langle$ /pdfmark | dviwindo $\rangle$

## 47.8 Direct pdfmark support

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

$\backslash$ @pdfproducer	for document information
$\backslash$ literalps@out	PostScript output
$\backslash$ 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

```
11204  $\langle$ *pdfmark $\rangle$ 
11205 \Hy@breaklinks@unsupported
11206 \def\HyPat@ObjRef{%
11207   \{[~{}]+\}%
11208 }
11209 \Hy@WrapperDef\hyper@anchor#1{%
11210   \Hy@SaveLastskip
11211   \Hy@VerboseAnchor{#1}%
11212   \begingroup
11213     \pdfmark[\anchor@spot]{%
11214       pdfmark=/DEST,%
11215       linktype=anchor,%
11216       View=/\@pdfview \@pdfviewparams,%
11217       DestAnchor={#1}%
11218     }%
11219   \endgroup
11220   \Hy@RestoreLastskip
11221 }
11222 \ltx@ifundefined{hyper@anchorstart}{\endinput}
11223 \Hy@WrapperDef\hyper@anchorstart#1{%
11224   \Hy@SaveLastskip
11225   \Hy@VerboseAnchor{#1}%
11226   \literalps@out{H.S}%
11227   \Hy@AllowHyphens
11228   \xdef\hyper@currentanchor{#1}%
11229   \Hy@activeanchortrue
11230 }
11231 \def\hyper@anchorend{%
11232   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11233   \pdfmark{%
11234     pdfmark=/DEST,%
11235     linktype=anchor,%
11236     View=/\@pdfview \@pdfviewparams,%
11237     DestAnchor=\hyper@currentanchor,%
11238   }%
11239   \Hy@activeanchorfalse
11240   \Hy@RestoreLastskip
11241 }
11242 \def\hyper@linkstart#1#2{%
11243   \Hy@VerboseLinkStart{#1}{#2}%
```

```

11244 \ifHy@breaklinks
11245 \else
11246   \leavevmode
11247   \ifmmode
11248     \def\Hy@LinkMath{$}%
11249   \else
11250     \let\Hy@LinkMath\ltx@empty
11251   \fi
11252   \Hy@SaveSpaceFactor
11253   \hbox\bgroup
11254   \Hy@RestoreSpaceFactor
11255   \Hy@LinkMath
11256 \fi
11257 \expandafter\Hy@colorlink\csname @#1color\endcsname
11258 \literalps@out{H.S}%
11259 \Hy@AllowHyphens
11260 \xdef\hyper@currentanchor{#2}%
11261 \gdef\hyper@currentlinktype{#1}%
11262 }
11263 \def\hyper@linkend{%
11264   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11265   \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11266     \let\Hy@tempcolor\relax
11267   }{%
11268     \edef\Hy@tempcolor{%
11269       \csname @\hyper@currentlinktype bordercolor\endcsname
11270     }%
11271   }%
11272   \pdfmark{%
11273     pdfmark=/ANN,%
11274     linktype=link,%
11275     Subtype=/Link,%
11276     PDFAFlags=4,%
11277     Dest=\hyper@currentanchor,%
11278     AcroHighlight=\@pdfhighlight,%
11279     Border=\@pdfborder,%
11280     BorderStyle=\@pdfborderstyle,%
11281     Color=\Hy@tempcolor,%
11282     Raw=H.B%
11283   }%
11284   \Hy@endcolorlink
11285   \ifHy@breaklinks
11286   \else
11287     \Hy@LinkMath
11288     \Hy@SaveSpaceFactor
11289     \egroup
11290     \Hy@RestoreSpaceFactor
11291   \fi
11292 }

```

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.

```

11293 \begingroup
11294   \catcode'P=12 %
11295   \catcode'T=12 %
11296   \lowercase{\endgroup
11297   \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%

```

```

11298 }
11299 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

#### \hyper@pagetransition

```

11300 \def\hyper@pagetransition{%
11301   \ifx\@pdfpagetransition\relax
11302   \else
11303     \ifx\@pdfpagetransition\@empty
11304       % 1. Does an old entry have to be deleted?
11305       % 2. If 1=yes, how to delete?
11306     \else
11307       \pdfmark{%
11308         pdfmark=/PUT,%
11309         Raw={%
11310           \string{ThisPage\string}%
11311           <</Trans << /S /\@pdfpagetransition\space >> >>%
11312         }%
11313       }%
11314     \fi
11315   \fi
11316 }

```

#### \hyper@pageduration

```

11317 \def\hyper@pageduration{%
11318   \ifx\@pdfpageduration\relax
11319   \else
11320     \ifx\@pdfpageduration\@empty
11321       % 1. Does an old entry have to be deleted?
11322       % 2. If 1=yes, how to delete?
11323     \else
11324       \pdfmark{%
11325         pdfmark=/PUT,%
11326         Raw={%
11327           \string{ThisPage\string}%
11328           <</Dur \@pdfpageduration>>%
11329         }%
11330       }%
11331     \fi
11332   \fi
11333 }

```

#### \hyper@pagehidden

```

11334 \def\hyper@pagehidden{%
11335   \ifHy@useHidKey
11336   \pdfmark{%
11337     pdfmark=/PUT,%
11338     Raw={%
11339       \string{ThisPage\string}%
11340       <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11341     }%
11342   }%
11343   \fi
11344 }

11345 \g@addto@macro\Hy@EveryPageBoxHook{%
11346   \hyper@pagetransition
11347   \hyper@pageduration

```



```

11348 \hyper@pagehidden
11349 }

11350 \def\hyper@image#1#2{%
11351 \hyper@linkurl{#2}{#1}%
11352 }
11353 \def\Hy@undefinedname{UNDEFINED}
11354 \def\hyper@link#1#2#3{%
11355 \Hy@VerboseLinkStart{#1}{#2}%
11356 \ltx@ifundefined{#1bordercolor}{%
11357 \let\Hy@tempcolor\relax
11358 }{%
11359 \edef\Hy@tempcolor{\csname #1bordercolor\endcsname}%
11360 }%
11361 \begingroup
11362 \protected@edef\Hy@testname{#2}%
11363 \ifx\Hy@testname\@empty
11364 \Hy@Warning{%
11365 Empty destination name,\MessageBreak
11366 using '\Hy@undefinedname'%
11367 }%
11368 \let\Hy@testname\Hy@undefinedname
11369 \fi
11370 \pdfmark[{#3}]{%
11371 Color=\Hy@tempcolor,%
11372 linktype={#1},%
11373 AcroHighlight=\@pdfhighlight,%
11374 Border=\@pdfborder,%
11375 BorderStyle=\@pdfborderstyle,%
11376 pdfmark=/ANN,%
11377 Subtype=/Link,%
11378 PDFAFlags=4,%
11379 Dest=\Hy@testname
11380 }%
11381 \endgroup
11382 }
11383 \newtoks\pdf@docset
11384 \def\PDF@FinishDoc{%
11385 \Hy@UseMaketitleInfos
11386 \Hy@Info@GenerateAddons
11387 \let\Hy@temp\@empty
11388 \ifx\@pdfcreationdate\@empty
11389 \else
11390 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11391 \fi
11392 \ifx\@pdfmoddate\@empty
11393 \else
11394 \expandafter\def\expandafter\Hy@temp\expandafter{%
11395 \Hy@temp
11396 ModDate=\@pdfmoddate,%
11397 }%
11398 \fi
11399 \ifx\@pdfproducer\relax
11400 \else
11401 \expandafter\def\expandafter\Hy@temp\expandafter{%
11402 \Hy@temp
11403 Producer=\@pdfproducer,%
11404 }%

```

```

11405 \fi
11406 \expandafter
11407 \pdfmark\expandafter{%
11408   \Hy@temp
11409   pdfmark=/DOCINFO,%
11410   Title=\@pdftitle,%
11411   Subject=\@pdfsubject,%
11412   Creator=\@pdfcreator,%
11413   Author=\@pdfauthor,%
11414   Keywords=\@pdfkeywords,%
11415   Trapped=\@pdftrapped
11416 }%
11417 \ifx\HyInfo@Addons\@empty
11418 \else
11419   \pdfmark{%
11420     pdfmark=/DOCINFO,%
11421     Raw={\HyInfo@Addons}%
11422   }%
11423 \fi
11424 \Hy@DisableOption{pdfauthor}%
11425 \Hy@DisableOption{pdftitle}%
11426 \Hy@DisableOption{pdfsubject}%
11427 \Hy@DisableOption{pdfcreator}%
11428 \Hy@DisableOption{pdfcreationdate}%
11429 \Hy@DisableOption{pdfmoddate}%
11430 \Hy@DisableOption{pdfproducer}%
11431 \Hy@DisableOption{pdfkeywords}%
11432 \Hy@DisableOption{pdftrapped}%
11433 \Hy@DisableOption{pdfinfo}%
11434 }
11435 \def\PDF@SetupDoc{%
11436   \def\Hy@temp{}%
11437   \ifx\@pdfstartpage\@empty
11438   \else
11439     \ifx\@pdfstartview\@empty
11440     \else
11441       \edef\Hy@temp{%
11442         ,Page=\@pdfstartpage
11443         ,View=\@pdfstartview
11444       }%
11445     \fi
11446   \fi
11447   \edef\Hy@temp{%
11448     \noexpand\pdfmark{%
11449       pdfmark=/DOCVIEW,%
11450       PageMode=/\@pdfpagemode
11451     }\Hy@temp
11452   }%
11453 }%
11454 \Hy@temp
11455 \ifx\@pdfpagescrop\@empty
11456 \else
11457   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11458 \fi
11459 \edef\Hy@temp{%
11460   \ifHy@pdftoolbar\else /HideToolbar true\fi
11461   \ifHy@pdfmenubar\else /HideMenubar true\fi

```

```

11462 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11463 \ifHy@pdffitwindow /FitWindow true\fi
11464 \ifHy@pdfcenterwindow /CenterWindow true\fi
11465 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11466 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11467 \Hy@UseNameKey{Direction}\@pdfdirection
11468 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11469 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11470 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11471 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11472 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11473 \Hy@UseNameKey{Duplex}\@pdfduplex
11474 \ifx\@pdfpicktraybypdfsize\@empty
11475 \else
11476 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11477 \fi
11478 \ifx\@pdfprintpagerange\@empty
11479 \else
11480 /PrintPageRange[\@pdfprintpagerange]%
11481 \fi
11482 \ifx\@pdfnumcopies\@empty
11483 \else
11484 /NumCopies \@pdfnumcopies
11485 \fi
11486 }%
11487 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11488 \pdfmark{%
11489 pdfmark=/PUT,%
11490 Raw={%
11491 \string{Catalog\string}<<%
11492 \ifx\Hy@temp\@empty
11493 \else
11494 /ViewerPreferences<<\Hy@temp>>%
11495 \fi
11496 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11497 \ifx\@pdflang\@empty
11498 \else
11499 /Lang(\@pdflang)%
11500 \fi
11501 \ifx\@baseurl\@empty
11502 \else
11503 /URI<</Base(\Hy@pstringB)>>%
11504 \fi
11505 >>%
11506 }%
11507 }%
11508 }
11509 </pdfmark>
11510 <*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.

```

11511 \newif\ifHy@pdfmarkerror

```

```

11512 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
11513 \def\pdfmark@[#1]#2{%
11514   \Hy@pdfmarkerrorfalse
11515   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11516   \@processme
11517   \let\pdf@type\relax
11518   \kvsetkeys{PDF}{#2}%
11519   \ifHy@pdfmarkerror
11520   \else
11521     \ifx\pdf@type\relax
11522       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11523       \ifx\#1\%
11524         \else
11525           \pdf@rect{#1}%
11526           \fi
11527       \else
11528         \ifx\#1\%
11529           \literalps@out{%
11530             [\the\pdf@toks\space\pdf@type\space pdfmark%
11531             ]%
11532           \else
11533             \ltx@ifundefined{@\pdf@linktype color}{%
11534               \Hy@colorlink\@linkcolor
11535             }{%
11536               \expandafter\Hy@colorlink
11537                 \csname @\pdf@linktype color\endcsname
11538             }%
11539             \pdf@rect{#1}%
11540             \literalps@out{%
11541               [\the\pdf@toks\space\pdf@type\space pdfmark%
11542               ]%
11543             \Hy@endcolorlink
11544             \fi
11545           \fi
11546         \fi
11547 }

```

The complicated bit is working out the right enclosing rectangle of some piece of T<sub>E</sub>X text, needed by the /Rect key. This solution originates with Toby Thain (toby@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}

```

```

11548 \newsavebox{\pdf@box}
11549 \providecommand*\Hy@setouterhbox{\sbox}
11550 \providecommand*\Hy@breaklinksunhbox{\unhbox}
11551 \def\Hy@DEST{/DEST}
11552 \def\pdf@rect#1{%
11553   \begingroup
11554   \chardef\x=1 %
11555   \def\Hy@temp{#1}%

```

```

11556 \ifx\Hy@temp\ltx@empty
11557 \chardef\x=0 %
11558 \else
11559 \def\y{\anchor@spot}%
11560 \ifx\Hy@temp\y
11561 \def\y{\relax}%
11562 \ifx\anchor@spot\y
11563 \chardef\x=0 %
11564 \fi
11565 \fi
11566 \fi
11567 \expandafter\endgroup
11568 \ifcase\x
11569 \literalps@out{H.S}%
11570 \literalps@out{H.R}%
11571 \else
11572 \leavevmode
11573 \Hy@SaveSpaceFactor
11574 \ifmmode
11575 \def\Hy@LinkMath{$}%
11576 \else
11577 \let\Hy@LinkMath\ltx@empty
11578 \fi
11579 \ifHy@breaklinks
11580 \Hy@setouterhbox\pdf@box{%
11581 \Hy@RestoreSpaceFactor
11582 \Hy@LinkMath
11583 \Hy@AllowHyphens#1\Hy@xspace@end
11584 \Hy@LinkMath
11585 \Hy@SaveSpaceFactor
11586 }%
11587 \else
11588 \sbox\pdf@box{%
11589 \Hy@RestoreSpaceFactor
11590 \Hy@LinkMath
11591 #1\Hy@xspace@end
11592 \Hy@LinkMath
11593 \Hy@SaveSpaceFactor
11594 }%
11595 \fi
11596 \dimen@ht\pdf@box
11597 \ifdim\dp\pdf@box=z@
11598 \literalps@out{H.S}%
11599 \else
11600 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11601 \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...).

```

11602 \ifHy@breaklinks
11603 \ifhmode
11604 \Hy@breaklinksunhbox\pdf@box
11605 \else
11606 \box\pdf@box
11607 \fi
11608 \else
11609 \expandafter\box\pdf@box
11610 \fi

```

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

11611 \ifdim\dimen@=\z@
11612 \literalps@out{H.R}%
11613 \else
11614 \raise\dimen@\hbox{\literalps@out{H.R}}%
11615 \fi
11616 \Hy@RestoreSpaceFactor
11617 \fi
11618 \ifx\pdf@type\Hy@DEST
11619 \else
11620 \pdf@addtoksx{H.B}%
11621 \fi
11622 }

```

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.

```

11623 \newtoks\pdf@toks
11624 \newtoks\pdf@defaulttoks
11625 \pdf@defaulttoks={}%
11626 \def\pdf@addtoks#1#2{%
11627 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11628 \@processme
11629 }
11630 \def\pdf@addtoksx#1{%
11631 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11632 \@processme
11633 }
11634 \def\PDFdefaults#1{%
11635 \pdf@defaulttoks={#1}%
11636 }

```

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

```

11637 % what is the type of pdfmark?
11638 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11639 % what is the link type?
11640 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11641 \def\pdf@linktype{link}
11642 % parameter is a stream of PDF
11643 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11644 % parameter is a name
11645 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11646 % parameter is a array
11647 \define@key{PDF}{Border}{}%
11648 \edef\Hy@temp{#1}%
11649 \ifx\Hy@temp\@empty
11650 \else
11651 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11652 \fi
11653 }
11654 \let\Hy@BorderArrayPatch\@empty
11655 % parameter is a dictionary
11656 \define@key{PDF}{BorderStyle}{%

```

```

11657 \edef\Hy@temp{#1}%
11658 \ifx\Hy@temp\@empty
11659 \else
11660 \pdf@addtoks{<<#1>>}{BS}%
11661 \fi
11662 }
11663 % parameter is a array
11664 \define@key{PDF}{Color}{%
11665 \ifx\relax#1\relax
11666 \else
11667 \pdf@addtoks{[#1]}{Color}% hash-ok
11668 \fi
11669 }
11670 % parameter is a string
11671 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11672 % parameter is a integer
11673 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11674 % parameter is a array
11675 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11676 % parameter is a string
11677 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11678 % parameter is a string or file
11679 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11680 % parameter is a destination
11681 \define@key{PDF}{Dest}{%
11682 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11683 \ifx\Hy@pstringDest\@empty
11684 \Hy@pdfmarkerrortrue
11685 \Hy@Warning{Destination with empty name ignored}%
11686 \else
11687 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11688 \fi
11689 }
11690 \define@key{PDF}{DestAnchor}{%
11691 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11692 \ifx\Hy@pstringDest\@empty
11693 \Hy@pdfmarkerrortrue
11694 \Hy@Warning{Destination with empty name ignored}%
11695 \else
11696 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11697 \fi
11698 }
11699 % parameter is a string
11700 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11701 % parameter is a string
11702 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11703 % parameter is a int
11704 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11705 \define@key{PDF}{PDFAFlags}{%
11706 \ifHy@pdfa
11707 \pdf@addtoks{#1}{F}%
11708 \fi
11709 }
11710 % parameter is a name
11711 \define@key{PDF}{AcroHighlight}{%
11712 \begingroup
11713 \edef\x{#1}%

```

```

11714 \expandafter\endgroup\ifx\x\@empty
11715 \else
11716 \pdf@addtoks{#1}{H}%
11717 \fi
11718 }
11719 % parameter is a string
11720 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11721 % parameter is a string
11722 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11723 % parameter is a string
11724 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11725 % parameter is a string
11726 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11727 % parameter is a Boolean
11728 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11729 % parameter is a integer or name
11730 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11731 % parameter is a name
11732 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11733 % parameter is a string
11734 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11735 % parameter is a array
11736 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11737 % parameter is a integer
11738 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11739 % parameter is a name
11740 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11741 % parameter is a string
11742 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11743 % parameter is a string
11744 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11745 % parameter is a string
11746 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11747 % parameter is an array
11748 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11749 % parameter is a string
11750 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11751 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11752 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11753 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11754 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11755 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11756 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11757 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11758 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11759 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11760 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
11761 \define@key{PDF}{Trapped}{%
11762 \edef\Hy@temp{#1}%
11763 \ifx\Hy@temp\@empty
11764 \else
11765 \pdf@addtoks{/#1}{Trapped}%
11766 \fi
11767 }
11768
11769 </pdfmarkbase>

```



```

11770 (*pdfmark)
11771 \def\Acrobatmenu#1#2{%
11772   \EdefEscapeName\Hy@temp@menu{#1}%
11773   \Hy@Acrobatmenu{#1}{#2}{%
11774     \pdfmark[{#2}]{%
11775       linktype=menu,%
11776       pdfmark=/ANN,%
11777       AcroHighlight=\@pdfhighlight,%
11778       Border=\@pdfborder,%
11779       BorderStyle=\@pdfborderstyle,%
11780       Color=\@menubordercolor,%
11781       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11782       Subtype=/Link,%
11783       PDFAFlags=4%
11784     }%
11785   }%
11786 }

```

And now for some useful examples:

```

11787 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
11788 \def\PDFNextPage@[#1]#2{%
11789   \pdfmark[{#2}]{%
11790     #1,%
11791     Border=\@pdfborder,%
11792     BorderStyle=\@pdfborderstyle,%
11793     Color=.2 .1 .5,%
11794     pdfmark=/ANN,%
11795     Subtype=/Link,%
11796     PDFAFlags=4,%
11797     Page=/Next%
11798   }%
11799 }
11800 \def\PDFPreviousPage{%
11801   \@ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11802 }
11803 \def\PDFPreviousPage@[#1]#2{%
11804   \pdfmark[{#2}]{%
11805     #1,%
11806     Border=\@pdfborder,%
11807     BorderStyle=\@pdfborderstyle,%
11808     Color=.4 .4 .1,%
11809     pdfmark=/ANN,%
11810     Subtype=/Link,%
11811     PDFAFlags=4,%
11812     Page=/Prev%
11813   }%
11814 }
11815 \def\PDFOpen#1{%
11816   \pdfmark{#1,pdfmark=/DOCVIEW}%
11817 }

```

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

```

11818 \def\hyper@linkurl#1#2{%
11819   \begingroup
11820   \Hy@pstringdef\Hy@pstringURI{#2}%
11821   \hyper@chars
11822   \leavevmode
11823   \pdfmark[{#1}]{%

```

```

11824 pdfmark=/ANN,%
11825 linktype=url,%
11826 AcroHighlight=\@pdfhighlight,%
11827 Border=\@pdfborder,%
11828 BorderStyle=\@pdfborderstyle,%
11829 Color=\@urlbordercolor,%
11830 Action={<<%
11831   /Subtype/URI%
11832   /URI(\Hy@pstringURI)%
11833   \ifHy@href@ismap
11834   /IsMap true%
11835   \fi
11836   >>},%
11837 Subtype=/Link,%
11838 PDFAFlags=4%
11839 }%
11840 \endgroup
11841 }
11842 \def\hyper@linkfile#1#2#3{%
11843   \begingroup
11844     \def\Hy@pstringF{#2}%
11845     \Hy@CleanupFile\Hy@pstringF
11846     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11847     \Hy@pstringdef\Hy@pstringD{#3}%
11848     \Hy@MakeRemoteAction
11849     \leavevmode
11850     \pdfmark[{#1}]{%
11851       pdfmark=/ANN,%
11852       Subtype=/Link,%
11853       PDFAFlags=4,%
11854       AcroHighlight=\@pdfhighlight,%
11855       Border=\@pdfborder,%
11856       BorderStyle=\@pdfborderstyle,%
11857       linktype=file,%
11858       Color=\@filebordercolor,%
11859       Action={%
11860         <<%
11861         /S/GoToR%
11862         \Hy@SetNewWindow
11863         /F(\Hy@pstringF)%
11864         /D%
11865         \ifx\#3\%
11866           [\Hy@href@page\@pdfremotestartview]%
11867         \else
11868           (\Hy@pstringD)cvn%
11869         \fi
11870         \Hy@href@nextactionraw
11871         >>%
11872       }%
11873     }%
11874   \endgroup
11875 }
11876 \def\@hyper@launch run:#1\#2#3{%
11877   \begingroup
11878     \Hy@pstringdef\Hy@pstringF{#1}%
11879     \Hy@pstringdef\Hy@pstringP{#3}%
11880     \leavevmode

```

```

11881 \pdfmark[{#2}]{%
11882 pdfmark=/ANN,%
11883 Subtype=/Link,%
11884 PDFAFlags=4,%
11885 AcroHighlight=\pdfhighlight,%
11886 Border=\pdfborder,%
11887 BorderStyle=\pdfborderstyle,%
11888 linktype=run,%
11889 Color=\runbordercolor,%
11890 Action={%
11891 <<%
11892 /S/Launch%
11893 \Hy@SetNewWindow
11894 /F(\Hy@pstringF)%
11895 \ifx\#3\%
11896 \else
11897 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11898 \fi
11899 \Hy@href@nextactionraw
11900 >>%
11901 }%
11902 }%
11903 \endgroup
11904 }
11905 </pdfmark>

```

Unfortunately, some parts of the `pdfmark` PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

## 47.9 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.

```

11906 <*dvips>
11907 \providecommand*\XR@ext}{pdf}
11908 \let\Hy@raisedlink\ltx@empty
11909 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11910 \def\headerps@out#1{\special{! #1}}%
11911 \input{pdfmark.def}%
11912 \ifx\@pdfproducer\relax
11913 \def\@pdfproducer{dvips + Distiller}%
11914 \fi
11915 \providecommand*\@pdfborder{0 0 1}
11916 \providecommand*\@pdfborderstyle{}
11917 \providecommand*\@pdfview{XYZ}
11918 \providecommand*\@pdfviewparams{ H.V}
11919 \def\Hy@BorderArrayPatch{BorderArrayPatch}
11920 \g@addto@macro\Hy@FirstPageHook{%
11921 \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.

```
11922 /DvipsToPDF{72.27 mul Resolution div} def%
11923 /PDFToDvips{72.27 div Resolution mul} def%
11924 /BPToDvips{72 div Resolution mul}def%
```

The values inside the /Border array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```
11925 /BorderArrayPatch{%
11926   [exch{%
11927     dup dup type/integertype eq exch type/realtype eq or%
11928     {BPToDvips}if%
11929   }forall]%
11930 }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.

```
11931 /HyperBorder {1 PDFToDvips} def%
11932 /H.V {pdf@hoff pdf@voff null} def%
11933 /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

```
11934 /H.S {%
11935   currentpoint %
11936   HyperBorder add /pdf@lly exch def %
11937   dup DvipsToPDF 72 add /pdf@hoff exch def %
11938   HyperBorder sub /pdf@llx exch def%
11939 } 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 baselineskip is, and convert it to the dvips coordinate system.

Argument: baselineskip in pt. The  $x$  and  $y$  coordinates of the current point, minus the baselineskip

```
11940 /H.L {%
11941   2 sub dup%
11942   /HyperBasePt exch def %
11943   PDFToDvips /HyperBaseDvips exch def %
11944   currentpoint %
11945   HyperBaseDvips sub /pdf@ury exch def%
11946   /pdf@urx exch def%
11947 } def%
11948 /H.A {%
11949   H.L %
11950 % |pdf@voff| = the distance from the top of the page to a point
11951 % |\baselineskip| above the current point in PDF coordinates
11952   currentpoint exch pop %
11953   vsize 72 sub exch DvipsToPDF %
11954   HyperBasePt sub % baseline skip
```

```

11955     sub /pdf@voff exch def%
11956   } def%
11957   /H.R {%
11958     currentpoint %
11959     HyperBorder sub /pdf@ury exch def %
11960     HyperBorder add /pdf@urx exch def %
11961 % | /pdf@voff| = the distance from the top of the page to the current point, in
11962 % PDF coordinates
11963     currentpoint exch pop vsize 72 sub %
11964     exch DvipsToPDF sub /pdf@voff exch def%
11965   } def%
11966 }%
11967 }
11968 \AtBeginShipoutFirst{%
11969 \ifHy@setpagesize
11970 \begingroup
11971 \ifundefined{stockwidth}{%
11972 \ifdim\paperwidth>\z@
11973 \ifdim\paperheight>\z@
11974 \special{papersize=\the\paperwidth,\the\paperheight}%
11975 \fi
11976 \fi
11977 }{%
11978 \ifdim\stockwidth>\z@
11979 \ifdim\stockheight>\z@
11980 \special{papersize=\the\stockwidth,\the\stockheight}%
11981 \fi
11982 \fi
11983 }%
11984 \endgroup
11985 \fi
11986 \Hy@DisableOption{setpagesize}%
11987 }
11988 </dvips>

```

## 47.10 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.

```

11989 <*vtexpdfmark>
11990 \providecommand*{\XR@ext}{pdf}
11991 \let\Hy@raisedlink\ltx@empty
11992 \def\literalps@out#1{\special{pS:#1}}%
11993 \def\headerps@out#1{\immediate\special{pS:#1}}%
11994 \input{pdfmark.def}%
11995 \ifx\@pdfproducer\relax
11996 \ifnum\OpMode=\@ne
11997 \def\@pdfproducer{VTeX}%
11998 \else
11999 \def\@pdfproducer{VTeX + Distiller}%
12000 \fi
12001 \fi
12002 \providecommand*\@pdfborder{0 0 1}
12003 \providecommand*\@pdfborderstyle{}
12004 \providecommand*\@pdfview{XYZ}

```

```

12005 \providecommand*\@pdfviewparams{ H.V}
12006 \g@addto@macro\Hy@FirstPageHook{%
12007   \headerps@out{%
12008     /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.

```

12009   /HyperBorder {1} def%
12010   /H.V {pdf@hoff pdf@voff null} def%
12011   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

12012   /H.S {%
12013     currentpoint %
12014     HyperBorder sub%
12015     /pdf@lly exch def %
12016     dup 72 add /pdf@hoff exch def %
12017     HyperBorder sub%
12018     /pdf@llx exch def%
12019   } def%

```

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

```

12020   /H.L {%
12021     2 sub%
12022     /HyperBasePt exch def %
12023     currentpoint %
12024     HyperBasePt add HyperBorder add%
12025     /pdf@ury exch def %
12026     HyperBorder add%
12027     /pdf@urx exch def%
12028   } def%
12029   /H.A {%
12030     H.L %
12031     currentpoint exch pop %
12032     vsize 72 sub exch %
12033     HyperBasePt add add%
12034     /pdf@voff exch def%
12035   } def%

```

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

```

12036   /H.R {%
12037     currentpoint %
12038     HyperBorder add%
12039     /pdf@ury exch def %
12040     HyperBorder add%
12041     /pdf@urx exch def %
12042     currentpoint exch pop vsize 72 sub add%
12043     /pdf@voff exch def%
12044   } def%
12045   }%
12046 }
12047 </vtxpdfmark>

```

## 47.11 Textures

```

12048 \*textures)
12049 \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.

```

12050 \begingroup
12051 \obeylines %
12052 \gdef\Hy@ps@CR{\noexpand
12053 }%
12054 \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`.

```

12055 \def\literalps@out#1{%
12056 \special{postscript 0 0 transform}%
12057 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
12058 }%
12059 %

```

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.

```

12060 \def\headerps@out#1{%
12061 \special{%
12062 prepostscript TeXdict begin\Hy@ps@CR
12063 #1\Hy@ps@CR
12064 end%
12065 }%
12066 }%
12067 %

```

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.

```

12068 \g@addto@macro\Hy@FirstPageHook{%
12069 \headerps@out{%
12070 /betterpdfmark {%
12071 systemdict begin %
12072 dup /BP eq%
12073 {cleartomark gsave nulldevice []%
12074 {dup /EP eq%
12075 {cleartomark cleartomark grestore}%

```

```

12076      {cleartomark}%
12077      ifelse%
12078      }ifelse %
12079      end%
12080    }def\Hy@ps@CR
12081    ____pdfmark__ not{/pdfmark /betterpdfmark load def}if%
12082  }% end of \headerps@out
12083 }% end of \AtBeginShipoutFirst
12084 %
12085 \input{pdfmark.def}%
12086 %
12087 \ifx\@pdfproducer\relax
12088   \def\@pdfproducer{Textures + Distiller}%
12089 \fi
12090 \providecommand*\@pdfborder{0 0 1}
12091 \providecommand*\@pdfborderstyle{}
12092 \providecommand*\@pdfview{XYZ}
12093 \providecommand*\@pdfviewparams{ H.V}
12094 %

```

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  $\text{\TeX}$ .

```

12095 \Hy@AtBeginDocument{%
12096   \headerps@out{%

```

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

```

12097   /vsize {\Hy@pageheight} def%
12098   /DvipsToPDF {} def%
12099   /PDFToDvips {} def%
12100   /BPToDvips {} def%
12101   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
12102   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
12103   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
12104   /H.S {%
12105     currentpoint %
12106     HyperBorder add /pdf@lly exch def %
12107     dup DvipsToPDF 72 add /pdf@hoff exch def %
12108     HyperBorder sub /pdf@llx exch def%
12109   } def\Hy@ps@CR
12110   /H.L {%
12111     2 sub %
12112     PDFToDvips /HyperBase exch def %
12113     currentpoint %
12114     HyperBase sub /pdf@ury exch def%
12115     /pdf@urx exch def%
12116   } def\Hy@ps@CR
12117   /H.A {%
12118     H.L %
12119     currentpoint exch pop %
12120     vsize 72 sub exch DvipsToPDF %
12121     HyperBase sub % baseline skip
12122     sub /pdf@voff exch def%
12123   } def\Hy@ps@CR
12124   /H.R {%

```



```

12125     currentpoint %
12126     HyperBorder sub /pdf@ury exch def %
12127     HyperBorder add /pdf@urx exch def %
12128     currentpoint exch pop vsize 72 sub %
12129     exch DvipsToPDF sub /pdf@voff exch def%
12130   } def\Hy@ps@CR
12131 }%
12132 }

12133 \Hy@AtBeginDocument{%
12134   \ifHy@colorlinks
12135     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
12136   \fi
12137 }

```

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.

```

12138 \expandafter\let\expandafter\keepPDF@SetupDoc
12139   \csname PDF@SetupDoc\endcsname
12140 \def\PDF@SetupDoc{%
12141   \ifx\@baseurl\@empty
12142   \else
12143     \special{html:<base href="\@baseurl">}%
12144   \fi
12145   \keepPDF@SetupDoc
12146 }

12147 \Hy@WrapperDef\hyper@anchor#1{%
12148   \Hy@SaveLastskip
12149   \Hy@VerboseAnchor{#1}%
12150   \begingroup
12151     \let\protect=\string
12152     \special{html:<a name=%
12153       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12154   \endgroup
12155   \Hy@activeanchortrue
12156   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12157   \special{html:</a>}%
12158   \Hy@activeanchorfalse
12159   \Hy@RestoreLastskip
12160 }

12161 \Hy@WrapperDef\hyper@anchorstart#1{%
12162   \Hy@SaveLastskip
12163   \Hy@VerboseAnchor{#1}%
12164   \begingroup
12165     \hyper@chars
12166     \special{html:<a name=%
12167       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12168   \endgroup
12169   \Hy@activeanchortrue
12170 }

12171 \def\hyper@anchorend{%
12172   \special{html:</a>}%
12173   \Hy@activeanchorfalse
12174   \Hy@RestoreLastskip
12175 }

12176 \def\@urltype{url}
12177 \def\hyper@linkstart#1#2{%

```

```

12178 \Hy@VerboseLinkStart{#1}{#2}%
12179 \expandafter\Hy@colorlink\csname @#1color\endcsname
12180 \def\Hy@tempa{#1}%
12181 \ifx\Hy@tempa\@urlltype
12182 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12183 \else
12184 \begingroup
12185 \hyper@chars
12186 \special{%
12187 html:<a href=%
12188 \hyper@quote#\Hy@HyperDestNameFilter{#2}\hyper@quote>%
12189 }%
12190 \endgroup
12191 \fi
12192 }
12193 \def\hyper@linkend{%
12194 \special{html:</a>}%
12195 \Hy@endcolorlink
12196 }
12197 \def\hyper@linkfile#1#2#3{%
12198 \hyper@linkurl{#1}{%
12199 \Hy@linkfileprefix#2\ifx\#3\\\else\#3\fi
12200 }%
12201 }
12202 \def\hyper@linkurl#1#2{%
12203 \leavevmode
12204 \ifHy@raiselinks
12205 \Hy@SaveSpaceFactor
12206 \Hy@SaveSavedSpaceFactor
12207 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12208 \Hy@RestoreSavedSpaceFactor
12209 \@linkdim\dp\@tempboxa
12210 \lower\@linkdim\hbox{%
12211 \hyper@chars
12212 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12213 }%
12214 \Hy@colorlink\@urlcolor
12215 \Hy@RestoreSpaceFactor
12216 #1\Hy@xspace@end
12217 \Hy@SaveSpaceFactor
12218 \@linkdim\ht\@tempboxa
12219 \advance\@linkdim by -6.5\p@
12220 \raise\@linkdim\hbox{\special{html:</a>}}%
12221 \Hy@endcolorlink
12222 \Hy@RestoreSpaceFactor
12223 \else
12224 \begingroup
12225 \hyper@chars
12226 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12227 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12228 \special{html:</a>}%
12229 \Hy@endcolorlink
12230 \endgroup
12231 \fi
12232 }

```

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

```

12233 \def\hyper@link#1#2#3{%

```

```

12234 \Hy@VerboseLinkStart{#1}{#2}%
12235 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12236 }
12237 \def\hyper@image#1#2{%
12238 \begingroup
12239 \hyper@chars
12240 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
12241 \endgroup
12242 }
12243 </textures>

```

## 47.12 dvipsone

```

12244 % \subsection{dvipsone driver}
12245 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12246 % |\special| commands.
12247 (*dvipsone)
12248 \providecommand*\XR@ext>{pdf}
12249 \let\Hy@raisedlink\ltx@empty
12250 \providecommand*\@pdfborder{0 0 1}
12251 \providecommand*\@pdfborderstyle{}
12252 \def\literalps@out#1{\special{ps:#1}}%
12253 \def\headerps@out#1{\special{headertext=#1}}%
12254 \input{pdfmark.def}%
12255 \ifx\@pdfproducer\relax
12256 \def\@pdfproducer{dvipsone + Distiller}%
12257 \fi
12258 \HyInfo@AddonUnsupportedtrue
12259 \def\PDF@FinishDoc{%
12260 \Hy@UseMaketitleInfos
12261 \HyInfo@TrappedUnsupported
12262 \special{PDF: Keywords \@pdfkeywords}%
12263 \special{PDF: Title \@pdftitle}%
12264 \special{PDF: Creator \@pdfcreator}%
12265 \ifx\@pdfcreationdate\@empty
12266 \else
12267 \special{PDF: CreationDate \@pdfcreationdate}%
12268 \fi
12269 \ifx\@pdfmoddate\@empty
12270 \else
12271 \special{PDF: ModDate \@pdfmoddate}%
12272 \fi
12273 \special{PDF: Author \@pdfauthor}%
12274 \ifx\@pdfproducer\relax
12275 \else
12276 \special{PDF: Producer \@pdfproducer}%
12277 \fi
12278 \special{PDF: Subject \@pdfsubject}%
12279 \Hy@DisableOption{pdfauthor}%
12280 \Hy@DisableOption{pdftitle}%
12281 \Hy@DisableOption{pdfsubject}%
12282 \Hy@DisableOption{pdfcreator}%
12283 \Hy@DisableOption{pdfcreationdate}%
12284 \Hy@DisableOption{pdfmoddate}%
12285 \Hy@DisableOption{pdfproducer}%
12286 \Hy@DisableOption{pdfkeywords}%
12287 \Hy@DisableOption{pdftrapped}%

```

```

12288 \Hy@DisableOption{pdfinfo}%
12289 }
12290 \def\PDF@SetupDoc{%
12291 \def\Hy@temp{}%
12292 \ifx\@pdfstartpage\@empty
12293 \else
12294 \ifx\@pdfstartview\@empty
12295 \else
12296 \edef\Hy@temp{%
12297 ,Page=\@pdfstartpage
12298 ,View=\@pdfstartview
12299 }%
12300 \fi
12301 \fi
12302 \edef\Hy@temp{%
12303 \noexpand\pdfmark{%
12304 pdfmark=/DOCVIEW,%
12305 PageMode=/\@pdfpagemode
12306 \Hy@temp
12307 }%
12308 }%
12309 \Hy@temp
12310 \ifx\@pdfpagescrop\@empty
12311 \else
12312 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12313 \fi
12314 \edef\Hy@temp{%
12315 \ifHy@pdftoolbar\else /HideToolbar true\fi
12316 \ifHy@pdfmenubar\else /HideMenubar true\fi
12317 \ifHy@pdfwindowui\else /HideWindowUI true\fi
12318 \ifHy@pdffitwindow /FitWindow true\fi
12319 \ifHy@pdfcenterwindow /CenterWindow true\fi
12320 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12321 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12322 \Hy@UseNameKey{Direction}\@pdfdirection
12323 \Hy@UseNameKey{ViewArea}\@pdfviewarea
12324 \Hy@UseNameKey{ViewClip}\@pdfviewclip
12325 \Hy@UseNameKey{PrintArea}\@pdfprintarea
12326 \Hy@UseNameKey{PrintClip}\@pdfprintclip
12327 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12328 \Hy@UseNameKey{Duplex}\@pdfduplex
12329 \ifx\@pdfpicktraybypdfsize\@empty
12330 \else
12331 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12332 \fi
12333 \ifx\@pdfprintpagerange\@empty
12334 \else
12335 /PrintPageRange[\@pdfprintpagerange]%
12336 \fi
12337 \ifx\@pdfnumcopies\@empty
12338 \else
12339 /NumCopies \@pdfnumcopies
12340 \fi
12341 }%
12342 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12343 \pdfmark{%
12344 pdfmark=/PUT,%

```

```

12345 Raw={%
12346   \string{Catalog\string}<<%
12347   \ifx\Hy@temp\@empty
12348     \else
12349       /ViewerPreferences<<\Hy@temp>>%
12350     \fi
12351     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12352     \ifx\@pdflang\@empty
12353     \else
12354       /Lang(\@pdflang)%
12355     \fi
12356     \ifx\@baseurl\@empty
12357     \else
12358       /URI<</Base(\Hy@pstringB)>>%
12359     \fi
12360   >>%
12361 }%
12362 }%
12363 }
12364 \providecommand*\@pdfview{XYZ}
12365 \providecommand*\@pdfviewparams{ %
12366   gsave revscl currentpoint grestore %
12367   72 add exch pop null exch null%
12368 }
12369 \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  $\text{\TeX}$ .

```

12370 \g@addto@macro\Hy@FirstPageHook{%
12371   \headerps@out{%

```

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

```

12372   /DvipsToPDF { 65781 div } def%
12373   /PDFToDvips { 65781 mul } def%
12374   /BPToDvips{65781 mul}def%
12375   /HyperBorder { 1 PDFToDvips } def%
12376   /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.

```

12377   /BorderArrayPatch{%
12378     [exch{%
12379       dup dup type/integertype eq exch type/realtype eq or%
12380       {BPToDvips}if%
12381     }forall]%
12382   }def%
12383   /H.S {%
12384     currentpoint %
12385     HyperBorder add /pdf@lly exch def %
12386     dup DvipsToPDF 72 add /pdf@hoff exch def %
12387     HyperBorder sub /pdf@llx exch def%
12388   } def%
12389   /H.L {%
12390     2 sub %
12391     PDFToDvips /HyperBase exch def %

```

```

12392     currentpoint %
12393     HyperBase sub /pdf@ury exch def%
12394     /pdf@urx exch def%
12395   } def%
12396   /H.A {%
12397     H.L %
12398     currentpoint exch pop %
12399     HyperBase sub % baseline skip
12400     DvipsToPDF /pdf@voff exch def%
12401   } def%
12402   /H.R {%
12403     currentpoint %
12404     HyperBorder sub /pdf@ury exch def %
12405     HyperBorder add /pdf@urx exch def %
12406     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12407   } def%
12408 }%
12409 }
12410 </dvipsone>

```

### 47.13 TeX4ht

```

12411 <*tex4ht>
12412 \providecommand*{\XR@ext}{html}
12413 \let\Hy@raisedlink\ltx@empty
12414 \@ifpackageloaded{tex4ht}{%
12415   \Hy@InfoNoLine{tex4ht is already loaded}%
12416 }{%
12417   \RequirePackage[hTeX4ht]{tex4ht}%
12418 }
12419 \hyperlinkfileprefix{}
12420 \let\PDF@FinishDoc\ltx@empty
12421 \def\PDF@SetupDoc{%
12422   \ifx\@baseurl\@empty
12423   \else
12424     \special{t4ht=<base href="\@baseurl">}%
12425   \fi
12426 }
12427 \Hy@WrapperDef\hyper@anchor#1{%
12428   \Hy@SaveLastskip
12429   \Hy@VerboseAnchor{#1}%
12430   \begingroup
12431     \let\protect=\string
12432     \special{t4ht=<a name=%
12433       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12434   \endgroup
12435   \Hy@Activeanchortrue
12436   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12437   \special{t4ht=</a>}%
12438   \Hy@Activeanchorfalse
12439   \Hy@RestoreLastskip
12440 }
12441 \Hy@WrapperDef\hyper@anchorstart#1{%
12442   \Hy@SaveLastskip
12443   \Hy@VerboseAnchor{#1}%
12444   \begingroup
12445     \hyper@chars\special{t4ht=<a name=%
12446       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%

```

```

12447 \endgroup
12448 \Hy@activeanchortrue
12449 }
12450 \def\hyper@anchorend{%
12451 \special{t4ht=</a>}%
12452 \Hy@activeanchorfalse
12453 \Hy@RestoreLastskip
12454 }
12455 \def\@urltype{url}
12456 \def\hyper@linkstart#1#2{%
12457 \Hy@VerboseLinkStart{#1}{#2}%
12458 \expandafter\Hy@colorlink\csname @#1color\endcsname
12459 \def\Hy@tempa{#1}%
12460 \ifx\Hy@tempa\@urltype
12461 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12462 \else
12463 \begingroup
12464 \hyper@chars
12465 \special{t4ht=<a href=%
12466 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12467 \endgroup
12468 \fi
12469 }
12470 \def\hyper@linkend{%
12471 \special{t4ht=</a>}%
12472 \Hy@endcolorlink
12473 }
12474 \def\hyper@linkfile#1#2#3{%
12475 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12476 }
12477 \def\hyper@linkurl#1#2{%
12478 \leavevmode
12479 \ifHy@raiselinks
12480 \Hy@SaveSpaceFactor
12481 \Hy@SaveSavedSpaceFactor
12482 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12483 \Hy@RestoreSavedSpaceFactor
12484 \@linkdim\dp\@tempboxa
12485 \lower\@linkdim\hbox{%
12486 \begingroup
12487 \hyper@chars
12488 \special{%
12489 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12490 }%
12491 \endgroup
12492 }%
12493 \Hy@colorlink\@urlcolor
12494 \Hy@RestoreSpaceFactor
12495 #1\Hy@xspace@end
12496 \Hy@SaveSpaceFactor
12497 \Hy@endcolorlink
12498 \@linkdim\ht\@tempboxa
12499 \advance\@linkdim by -6.5\p@
12500 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12501 \Hy@RestoreSpaceFactor
12502 \else
12503 \begingroup

```

```

12504 \hyper@chars
12505 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12506 \Hy@colorlink\@urlcolor
12507 #1\Hy@xspace@end
12508 \Hy@endcolorlink
12509 \special{t4ht=</a>}%
12510 \endgroup
12511 \fi
12512 }

```

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

```

12513 \def\hyper@link#1#2#3{%
12514 \Hy@VerboseLinkStart{#1}{#2}%
12515 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12516 }
12517 \def\hyper@image#1#2{%
12518 \begingroup
12519 \hyper@chars
12520 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12521 \endgroup
12522 }
12523 \let\autoref\ref
12524 \ifx \rEFLiNK \UnDef
12525 \def\rEFLiNK #1#2{#2}%
12526 \fi
12527 \let\backref\ltx@gobble

```

Fix for tex4ht.

```

12528 \AtBeginDocument{%
12529 \expandafter
12530 \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12531 \expandafter\def\csname Make:Label\endcsname#1#2{%
12532 \ifhmode
12533 \Hy@SaveSpaceFactor
12534 \else
12535 \global\Hy@SavedSpaceFactor=1000 %
12536 \fi
12537 \Hy@OrgMakeLabel{#1}{%
12538 \Hy@RestoreSpaceFactor
12539 #2\Hy@xspace@end%
12540 \Hy@SaveSpaceFactor
12541 }%
12542 \Hy@RestoreSpaceFactor
12543 }%
12544 }
12545 </tex4ht>
12546 <*tex4htcfg>
12547 \IfFileExists{\jobname.cfg}{\endinput}{}
12548 \Preamble{html}
12549 \begin{document}%
12550 \EndPreamble
12551 \def\TeX{\TeX}
12552 \def\OMEGA{\Omega}
12553 \def\LaTeX{\LaTeX}
12554 \def\LaTeXe{\LaTeX2e}
12555 \def\eTeX{e-TeX}
12556 \def\MF{Metafont}
12557 \def\MP{MetaPost}
12558 </tex4htcfg>

```



## 48 Driver-specific form support

### 48.1 pdfmarks

```
12559 (*pdfmark)
12560 \long\def\@Form[#1]{%
12561 \g@addto@macro\Hy@FirstPageHook{%
12562 \headerps@out{%
12563 [%
12564 /__objdef{pdfDocEncoding}%
12565 /type/dict%
12566 /OBJ pdfmark%
12567 [%
12568 {pdfDocEncoding}%
12569 <<%
12570 /Type/Encoding%
12571 /Differences[%
12572 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12573 /tilde %
12574 39/quotesingle %
12575 96/grave %
12576 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12577 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12578 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12579 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12580 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12581 164/currency %
12582 166/brokenbar %
12583 168/dieresis/copyright/ordfeminine %
12584 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12585 /twosuperior/threesuperior/acute/mu %
12586 183/periodcentered/cedilla/onesuperior/ordmasculine %
12587 188/onequarter/onehalf/threequarters %
12588 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12589 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12590 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12591 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12592 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12593 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12594 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12595 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12596 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
12597 /ucircumflex/udieresis/yacute/thorn/ydieresis%
12598 ]%
12599 >>%
12600 /PUT pdfmark%
12601 [%
12602 /__objdef{ZaDb}%
12603 /type/dict%
12604 /OBJ pdfmark%
12605 [%
12606 {ZaDb}%
12607 <<%
12608 /Type/Font%
12609 /Subtype/Type1%
12610 /Name/ZaDb%
12611 /BaseFont/ZapfDingbats%
12612 >>%
```

```

12613 /PUT pdfmark%
12614 [%
12615   /__objdef{Helv}%
12616   /type/dict%
12617 /OBJ pdfmark%
12618 [%
12619   {Helv}%
12620   <<%
12621     /Type/Font%
12622     /Subtype/Type1%
12623     /Name/Helv%
12624     /BaseFont/Helvetica%
12625     /Encoding{pdfDocEncoding}%
12626   >>%
12627 /PUT pdfmark%
12628 [%
12629   /__objdef{aform}%
12630   /type/dict%
12631 /OBJ pdfmark%
12632 [%
12633   /__objdef{afields}%
12634   /type/array%
12635 /OBJ pdfmark%
12636 {%
12637   [%
12638     /BBox[0 0 100 100]%
12639     /__objdef{Check}%
12640   /BP pdfmark %
12641   1 0 0 setrgbcolor%
12642   /ZapfDingbats 80 selectfont %
12643   20 20 moveto%
12644   (4)show%
12645   [/EP pdfmark%
12646   [%
12647     /BBox[0 0 100 100]%
12648     /__objdef{Cross}%
12649   /BP pdfmark %
12650   1 0 0 setrgbcolor%
12651   /ZapfDingbats 80 selectfont %
12652   20 20 moveto%
12653   (8)show%
12654   [/EP pdfmark%
12655   [%
12656     /BBox[0 0 250 100]%
12657     /__objdef{Submit}%
12658   /BP pdfmark %
12659   0.6 setgray %
12660   0 0 250 100 rectfill %
12661   1 setgray %
12662   2 2 moveto %
12663   2 98 lineto %
12664   248 98 lineto %
12665   246 96 lineto %
12666   4 96 lineto %
12667   4 4 lineto %
12668   fill %
12669   0.34 setgray %

```

```

12670 248 98 moveto %
12671 248 2 lineto %
12672 2 2 lineto %
12673 4 4 lineto %
12674 246 4 lineto %
12675 246 96 lineto %
12676 fill%
12677 /Helvetica 76 selectfont %
12678 0 setgray %
12679 8 22.5 moveto%
12680 (Submit)show%
12681 [/EP pdfmark%
12682 [%
12683 /BBox[0 0 250 100]%
12684 /_objdef{SubmitP}%
12685 /BP pdfmark %
12686 0.6 setgray %
12687 0 0 250 100 rectfill %
12688 0.34 setgray %
12689 2 2 moveto %
12690 2 98 lineto %
12691 248 98 lineto %
12692 246 96 lineto %
12693 4 96 lineto %
12694 4 4 lineto %
12695 fill %
12696 1 setgray %
12697 248 98 moveto %
12698 248 2 lineto %
12699 2 2 lineto %
12700 4 4 lineto %
12701 246 4 lineto %
12702 246 96 lineto %
12703 fill%
12704 /Helvetica 76 selectfont %
12705 0 setgray %
12706 10 20.5 moveto%
12707 (Submit)show%
12708 [/EP pdfmark%
12709 } ?pdfmark%
12710 [%
12711 {aform}%
12712 <<%
12713 /Fields{afields}%
12714 /DR<<%
12715 /Font<<%
12716 /ZaDb{ZaDb}%
12717 /Helv{Helv}%
12718 >>%
12719 >>%
12720 /DA(/Helv 10 Tf 0 g)%
12721 /CO{corder}%
12722 \ifHy@pdfa
12723 \else
12724 \ifHyField@NeedAppearances
12725 /NeedAppearances true%
12726 \fi

```

```

12727 \fi
12728 >>%
12729 /PUT pdfmark%
12730 [%
12731 {Catalog}%
12732 <<%
12733 /AcroForm{aform}%
12734 >>%
12735 /PUT pdfmark%
12736 [%
12737 /_objdef{corder}%
12738 /type/array%
12739 /OBJ pdfmark% dps
12740 }}%
12741 \kvsetkeys{Form}{#1}%
12742 }
12743 \let\@endForm\ltx@empty
12744 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12745 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12746 }
12747 \def\@TextField[#1]#2{% parameters, label
12748 \def\Fld@name{#2}%
12749 \let\Fld@default\ltx@empty
12750 \let\Fld@value\@empty
12751 \def\Fld@width{\DefaultWidthofText}%
12752 \def\Fld@height{%
12753 \ifFld@multiline
12754 \DefaultHeightofTextMultiline
12755 \else
12756 \DefaultHeightofText
12757 \fi
12758 }%
12759 \begingroup
12760 \expandafter\HyField@SetKeys\expandafter{%
12761 \DefaultOptionsofText,#1%
12762 }%
12763 \HyField@FlagsText
12764 \ifFld@hidden\def\Fld@width{1sp}\fi
12765 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12766 \LayoutTextField{#2}{%
12767 \leavevmode
12768 \Hy@escapeform\PDFForm@Text
12769 \pdfmark{\MakeTextField{\Fld@width}{\Fld@height}}{%
12770 pdfmark=/ANN,Raw={\PDFForm@Text}%
12771 }%
12772 }%
12773 \endgroup
12774 }
12775 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12776 \def\Fld@name{#2}%
12777 \let\Fld@default\relax
12778 \let\Fld@value\relax
12779 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12780 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12781 \begingroup
12782 \Fld@menulength=0 %
12783 \@tempdima\z@

```

```

12784 \@for\@curropt:=#3\do{%
12785 \expandafter\Fld@checkequals\@curropt==\\%
12786 \Hy@StepCount\Fld@menulength
12787 \settowidth{\@tempdimb}{\@currDisplay}%
12788 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12789 }%
12790 \advance\@tempdima by 15\p@
12791 \begingroup
12792 \HyField@SetKeys{#1}%
12793 \edef\x{\endgroup
12794 \noexpand\expandafter
12795 \noexpand\HyField@SetKeys
12796 \noexpand\expandafter{%
12797 \expandafter\noexpand\csname DefaultOptionsof%
12798 \ifFld@radio
12799 Radio%
12800 \else
12801 \ifFld@combo
12802 \ifFld@popdown
12803 PopdownBox%
12804 \else
12805 ComboBox%
12806 \fi
12807 \else
12808 ListBox%
12809 \fi
12810 \fi
12811 \endcsname
12812 }%
12813 }\x
12814 \HyField@SetKeys{#1}%
12815 \ifFld@hidden\def\Fld@width{1sp}\fi
12816 \ifx\Fld@value\relax
12817 \let\Fld@value\Fld@default
12818 \fi
12819 \LayoutChoiceField{#2}{%
12820 \ifFld@radio
12821 \HyField@FlagsRadioButton
12822 \@@Radio{#3}%
12823 \else
12824 \begingroup
12825 \HyField@FlagsChoice
12826 \ifdim\Fld@width<\@tempdima
12827 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12828 \edef\Fld@width{\the\@tempdima}%
12829 \fi
12830 \ifFld@combo
12831 \else
12832 \@tempdima=\the\Fld@menulength\Fld@charsize
12833 \advance\@tempdima by \Fld@borderwidth bp %
12834 \advance\@tempdima by \Fld@borderwidth bp %
12835 \edef\Fld@height{\the\@tempdima}%
12836 \fi
12837 \@@Listbox{#3}%
12838 \endgroup
12839 \fi
12840 }%

```

```

12841 \endgroup
12842 }
12843 \def\@@Radio#1{%
12844   \Fld@listcount=0 %
12845   \EdefEscapeName\Fld@default{\Fld@default}%
12846   \@for\@curropt:=#1\do{%
12847     \expandafter\Fld@checkequals\@curropt==\%
12848     \EdefEscapeName\@currValue{\@currValue}%
12849     \Hy@StepCount\Fld@listcount
12850     \@currDisplay\space
12851     \Hy@escapeform\PDFForm@Radio
12852     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12853       pdfmark=/ANN,%
12854       Raw={%
12855         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12856       }%
12857     } % deliberate space between radio buttons
12858   }%
12859 }
12860 \newcount\Fld@listcount
12861 \def\@@Listbox#1{%
12862   \HyField@PDFChoices{#1}%
12863   \Hy@escapeform\PDFForm@List
12864   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12865     pdfmark=/ANN,Raw={\PDFForm@List}%
12866   }%
12867 }
12868 \def\@PushButton[#1]#2{% parameters, label
12869   \def\Fld@name{#2}%
12870   \begingroup
12871     \expandafter\HyField@SetKeys\expandafter{%
12872       \DefaultOptionsofPushButton,#1%
12873     }%
12874     \ifHy@pdfa
12875       \Hy@Error{%
12876         PDF/A: Push button with JavaScript is prohibited%
12877       }\@ehc
12878       \LayoutPushButtonField{%
12879         \leavevmode
12880         \MakeButtonField{#2}%
12881       }%
12882     \else
12883       \HyField@FlagsPushButton
12884       \ifFld@hidden\def\Fld@width{1sp}\fi
12885       \LayoutPushButtonField{%
12886         \leavevmode
12887         \Hy@escapeform\PDFForm@Push
12888         \pdfmark[\MakeButtonField{#2}]{%
12889           pdfmark=/ANN,Raw={\PDFForm@Push}%
12890         }%
12891       }%
12892     \fi
12893   \endgroup
12894 }
12895 \def\@Submit[#1]#2{%
12896   \def\Fld@width{\DefaultWidthofSubmit}%
12897   \def\Fld@height{\DefaultHeightofSubmit}%

```

```

12898 \begingroup
12899 \expandafter\HyField@SetKeys\expandafter{%
12900 \DefaultOptionsofSubmit,#1%
12901 }%
12902 \HyField@FlagsPushButton
12903 \HyField@FlagsSubmit
12904 \ifFld@hidden\def\Fld@width{1sp}\fi
12905 \Hy@escapeform\PDFForm@Submit
12906 \pdfmark[\MakeButtonField{#2}]{%
12907 pdfmark=/ANN,%
12908 Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12909 }%
12910 \endgroup
12911 }
12912 \def\@Reset[#1]#2{%
12913 \def\Fld@width{\DefaultWidthofReset}%
12914 \def\Fld@height{\DefaultHeightofReset}%
12915 \begingroup
12916 \expandafter\HyField@SetKeys\expandafter{%
12917 \DefaultOptionsofReset,#1%
12918 }%
12919 \leavevmode
12920 \ifHy@pdfa
12921 \Hy@Error{%
12922 PDF/A: Reset action is prohibited%
12923 }\@ehc
12924 \MakeButtonField{#2}%
12925 \else
12926 \HyField@FlagsPushButton
12927 \ifFld@hidden\def\Fld@width{1sp}\fi
12928 \Hy@escapeform\PDFForm@Reset
12929 \pdfmark[\MakeButtonField{#2}]{%
12930 pdfmark=/ANN,Raw={\PDFForm@Reset}%
12931 }%
12932 \fi
12933 \endgroup
12934 }%
12935 \def\@CheckBox[#1]#2{% parameters, label
12936 \def\Fld@name{#2}%
12937 \def\Fld@default{0}%
12938 \begingroup
12939 \def\Fld@width{\DefaultWidthofCheckBox}%
12940 \def\Fld@height{\DefaultHeightofCheckBox}%
12941 \expandafter\HyField@SetKeys\expandafter{%
12942 \DefaultOptionsofCheckBox,#1%
12943 }%
12944 \HyField@FlagsCheckBox
12945 \ifFld@hidden\def\Fld@width{1sp}\fi
12946 \LayoutCheckField{#2}{%
12947 \leavevmode
12948 \Hy@escapeform\PDFForm@Check
12949 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
12950 pdfmark=/ANN,Raw={\PDFForm@Check}%
12951 }%
12952 }%
12953 \endgroup
12954 }

```

12955  $\langle$ /pdfmark $\rangle$

## 48.2 HyperTeX

```
12956  $\langle$ *hypertex $\rangle$ 
12957 \def\@Form[#1]{%
12958   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12959 }
12960 \let\@endForm\ltx@empty
12961 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12962   \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12963 }
12964 \def\@TextField[#1]#2{% parameters, label
12965   \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12966 }
12967 \def\@CheckBox[#1]#2{% parameters, label
12968   \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12969 }
12970 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12971   \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12972 }
12973 \def\@PushButton[#1]#2{% parameters, label
12974   \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12975 }
12976 \def\@Reset[#1]#2{%
12977   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12978 }
12979 \def\@Submit[#1]#2{%
12980   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12981 }
12982  $\langle$ /hypertex $\rangle$ 
```

## 48.3 TeX4ht

```
12983  $\langle$ *tex4ht $\rangle$ 
12984 \def\@Form[#1]{%
12985   \kvsetkeys{Form}{#1}%
12986   \HCode{<form action="\Form@action" method="\Form@method">}%
12987 }
12988 \def\@endForm{\HCode{</form>}}
12989 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12990   \Hy@Message{Sorry, TeX4ht does not support gauges}%
12991 }
12992 \def\@TextField[#1]#2{% parameters, label
12993   \let\Hy@reserved@a\@empty
12994   \def\Fld@name{#2}%
12995   \let\Fld@default\ltx@empty
12996   \bgroup
12997     \Field@toks={ }%
12998     \kvsetkeys{Field}{#1}%
12999     \HCode{<label for="\Fld@name">#2</label>}%
13000     \ifFld@password
13001       \@@PasswordField
13002     \else
13003       \@@TextField
13004     \fi
13005   \egroup
13006 }
13007 \def\@@PasswordField{%
```



```

13008 \HCode{%
13009   <input type="password" %
13010   id="\Fld@name" %
13011   name="\Fld@name" %
13012   \ifFld@hidden type="hidden" \fi
13013   value="\Fld@default" %
13014   \the\Field@toks
13015   >%
13016 }%
13017 }
13018 \def\@@TextField{%
13019   \ifFld@multiline
13020     \HCode{<textarea %
13021       \ifFld@readonly readonly \fi
13022       id="\Fld@name" %
13023       name="\Fld@name" %
13024       \ifFld@hidden type="hidden" \fi
13025       \the\Field@toks>%
13026     }%
13027     \Fld@default
13028     \HCode{</textarea>}%
13029   \else
13030     \HCode{<input type="textbox" %
13031       \ifFld@readonly readonly \fi
13032       id="\Fld@name" %
13033       name="\Fld@name" %
13034       \ifFld@hidden type="hidden" \fi
13035       value="\Fld@default" %
13036       \the\Field@toks>%
13037     }%
13038   \fi
13039 }
13040 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13041   \def\Fld@name{#2}%
13042   \let\Fld@default\ltx@empty
13043   \let\Hy@reserved@a\relax
13044   \begingroup
13045     \expandafter\Fld@findlength#3\\%
13046     \Field@toks={ }%
13047     \kvsetkeys{Field}{#1}%
13048     #2%
13049     \ifFld@radio
13050       \expandafter\@@Radio#3\\%
13051     \else
13052       \expandafter\@@Menu#3\\%
13053     \fi
13054   \endgroup
13055 }
13056 \def\Fld@findlength#1\\{%
13057   \Fld@menulength=0 %
13058   \@for\@currupt:=#1\do{\Hy@StepCount\Fld@menulength}%
13059 }
13060 \def\@@Menu#1\\{%
13061   \HCode{<select size="\the\Fld@menulength" %
13062     name="\Fld@name" %
13063     \the\Field@toks>%
13064   }%

```

```

13065 \@for\@curropt:=#1\do{%
13066   \expandafter\Fld@ckekequals\@curropt==\\%
13067   \HCode{<option %
13068     \ifx\@curropt\Fld@default selected \fi
13069     value="\@currValue">\@currDisplay</option>%
13070   }%
13071 }%
13072 \HCode{</select>}%
13073 }
13074 \def\@@Radio#1\\{%
13075   \@for\@curropt:=#1\do{%
13076     \expandafter\Fld@ckekequals\@curropt==\\%
13077     \HCode{<input type="radio" %
13078       \ifx\@curropt\Fld@default checked \fi
13079       name="\Fld@name" %
13080       value="\@currValue" %
13081       \the\Fld@toks>%
13082     }%
13083     \@currDisplay
13084   }%
13085 }
13086 \def\@PushButton[#1]#2{% parameters, label
13087   \def\Fld@name{#2}%
13088   \bgroup
13089     \Field@toks={ }%
13090     \kvsetkeys{Field}{#1}%
13091     \HCode{<input type="button" %
13092       name="\Fld@name" %
13093       value="#2" %
13094       \the\Fld@toks>%
13095     }%
13096     \HCode{</button>}%
13097   \egroup
13098 }
13099 \def\@Submit[#1]#2{%
13100   \HCode{<button type="submit">#2</button>}%
13101 }
13102 \def\@Reset[#1]#2{%
13103   \HCode{<button type="reset">#2</button>}%
13104 }
13105 \def\@CheckBox[#1]#2{% parameters, label
13106   \let\Hy@reserved@a\@empty
13107   \def\Fld@name{#2}%
13108   \def\Fld@default{0}%
13109   \bgroup
13110     \Field@toks={ }%
13111     \kvsetkeys{Field}{#1}%
13112     \HCode{<input type="checkbox" %
13113       \ifFld@checked checked \fi
13114       \ifFld@disabled disabled \fi
13115       \ifFld@readonly readonly \fi
13116       name="\Fld@name" %
13117       \ifFld@hidden type="hidden" \fi
13118       value="\Fld@default" %
13119       \the\Fld@toks>%
13120     #2%
13121   }%

```

```

13122 \egroup
13123 }
13124 </tex4ht>

```

## 48.4 pdfTeX

```

13125 (*pdfTeX)
13126 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13127 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
13128 }
13129 \def\MakeFieldObject#1#2{\sbox0{#1}%
13130 \immediate\pdfxform0 %
13131 \expandafter\edef\csname #2Object\endcsname{%
13132 \the\pdfastxform\space 0 R%
13133 }%
13134 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}}%
13135 }%
13136 \let\HyField@afields\ltx@empty
13137 \begingroup\expandafter\expandafter\expandafter\endgroup
13138 \expandafter\ifx\csname pdfastlink\endcsname\relax
13139 \let\HyField@AddToFields\relax
13140 \PackageInfo{hyperref}{%
13141 You need pdfTeX 1.40.0 for setting the /Fields entry.%
13142 \MessageBreak
13143 Adobe Reader/Acrobat accepts an empty /Field array,%
13144 \MessageBreak
13145 but other PDF viewers might complain%
13146 }%
13147 \else
13148 \let\HyField@AuxAddToFields\ltx@gobble
13149 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
13150 \Hy@AtBeginDocument{%
13151 \if@filesw
13152 \immediate\write\@mainaux{%
13153 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13154 }%
13155 \fi
13156 \let\HyField@AfterAuxOpen\@firstofone
13157 \def\HyField@AuxAddToFields#1{%
13158 \xdef\HyField@afields{%
13159 \ifx\HyField@afields\@empty
13160 \else
13161 \HyField@afields
13162 \space
13163 \fi
13164 #1 0 R%
13165 }%
13166 }%
13167 }%
13168 \def\HyField@AddToFields{%
13169 \expandafter\HyField@@AddToFields\expandafter{%
13170 \the\pdfastlink
13171 }%
13172 }%
13173 \def\HyField@@AddToFields#1{%
13174 \HyField@AfterAuxOpen{%
13175 \if@filesw
13176 \write\@mainaux{%

```

```

13177     \string\HyField@AuxAddToFields{#1}%
13178   }%
13179   \fi
13180 }%
13181 }%
13182 \fi
13183 \def\@Form[#1]{%
13184   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13185   \kvsetkeys{Form}{#1}%
13186   \pdf@ifdraftmode{}{%
13187     \Hy@FormObjects
13188     \ifnum\pdfTeXversion>13 %
13189       \pdfrefobj\OBJ@pdfdocencoding
13190       \pdfrefobj\OBJ@ZaDb
13191       \pdfrefobj\OBJ@Helv
13192     \fi
13193     \AtVeryEndDocument{%
13194       \immediate\pdfobj{%
13195         <<%
13196         /Fields[\HyField@afields]%
13197         /DR<<%
13198         /Font<<%
13199         /ZaDb \OBJ@ZaDb\space 0 R%
13200         /Helv \OBJ@Helv\space 0 R%
13201         >>%
13202         >>%
13203         /DA(/Helv 10 Tf 0 g)%
13204         \ifHy@pdfa
13205         \else
13206           \ifHyField@NeedAppearances
13207             /NeedAppearances true%
13208           \fi
13209         \fi
13210         >>%
13211       }%
13212       \edef\OBJ@acroform{\the\pdflastobj}%
13213       \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13214     }%
13215   }%
13216   \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

13217   \begingroup
13218     \fontfamily{pzd}%
13219     \fontencoding{U}%
13220     \fontseries{m}%
13221     \fontshape{n}%
13222     \selectfont
13223     \char123 %
13224   \endgroup
13225 }{Ding}%
13226 \MakeFieldObject{%
13227   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13228 }{Submit}%
13229 \MakeFieldObject{%
13230   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13231 }{SubmitP}%
13232 }

```

```

13233 \let\@endForm\ltx@empty
13234 \def\@TextField[#1]#2{% parameters, label
13235   \def\Fld@name{#2}%
13236   \let\Fld@default\ltx@empty
13237   \let\Fld@value\@empty
13238   \def\Fld@width{\DefaultWidthofText}%
13239   \def\Fld@height{%
13240     \ifFld@multiline
13241       \DefaultHeightofTextMultiline
13242     \else
13243       \DefaultHeightofText
13244     \fi
13245   }%
13246   \begingroup
13247     \expandafter\HyField@SetKeys\expandafter{%
13248       \DefaultOptionsofText,#1%
13249     }%
13250     \PDFForm@Name
13251     \HyField@FlagsText
13252     \ifFld@hidden\def\Fld@width{1sp}\fi
13253     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13254     \LayoutTextField{#2}{%
13255       \leavevmode
13256       \Hy@escapeform\PDFForm@Text
13257       \pdfstartlink user {\PDFForm@Text}\relax
13258       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13259       \HyField@AddToFields
13260     }%
13261   \endgroup
13262 }
13263 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13264   \def\Fld@name{#2}%
13265   \let\Fld@default\relax
13266   \let\Fld@value\relax
13267   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13268   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13269   \begingroup
13270     \Fld@menulength=0 %
13271     \@tempdima\z@
13272     \@for\@curropt:=#3\do{%
13273       \expandafter\Fld@checkequals\@curropt==\%
13274       \Hy@StepCount\Fld@menulength
13275       \settowidth{\@tempdimb}{\@currDisplay}%
13276       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13277     }%
13278     \advance\@tempdima by 15\p@
13279     \begingroup
13280       \HyField@SetKeys{#1}%
13281     \edef\x{\endgroup
13282       \noexpand\expandafter
13283       \noexpand\HyField@SetKeys
13284       \noexpand\expandafter{%
13285         \expandafter\noexpand\csname DefaultOptionsof%
13286           \ifFld@radio
13287             Radio%
13288           \else
13289             \ifFld@combo

```

```

13290         \ifFld@popdown
13291             PopdownBox%
13292         \else
13293             ComboBox%
13294         \fi
13295     \else
13296         ListBox%
13297     \fi
13298 \fi
13299 \endcsname
13300 }%
13301 }\x
13302 \HyField@SetKeys{#1}%
13303 \PDFForm@Name
13304 \ifFld@hidden\def\Fld@width{1sp}\fi
13305 \ifx\Fld@value\relax
13306     \let\Fld@value\Fld@default
13307 \fi
13308 \LayoutChoiceField{#2}{%
13309     \ifFld@radio
13310         \HyField@FlagsRadioButton
13311         \@@Radio{#3}%
13312     \else
13313         \begingroup
13314             \HyField@FlagsChoice
13315             \ifdim\Fld@width<\@tempdima
13316                 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13317                 \edef\Fld@width{\the\@tempdima}%
13318             \fi
13319             \ifFld@combo
13320             \else
13321                 \@tempdima=\the\Fld@menulength\Fld@charsize
13322                 \advance\@tempdima by \Fld@borderwidth bp %
13323                 \advance\@tempdima by \Fld@borderwidth bp %
13324                 \edef\Fld@height{\the\@tempdima}%
13325             \fi
13326             \@@ListBox{#3}%
13327         \endgroup
13328     \fi
13329 }%
13330 \endgroup
13331 }
13332 \def\@@Radio#1{%
13333     \Fld@listcount=0 %
13334     \EdefEscapeName\Fld@default{\Fld@default}%
13335     \@for\@curropt:=#1\do{%
13336         \expandafter\Fld@checkequals\@curropt==\%
13337         \EdefEscapeName\@currValue{\@currValue}%
13338         \Hy@StepCount\Fld@listcount
13339         \@currDisplay\space
13340     \leavevmode
13341     \Hy@escapeform\PDFForm@Radio
13342     \pdfstartlink user {%
13343         \PDFForm@Radio
13344         /AP<<%
13345         /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.

```
13346      /\@currValue\space \DingObject
13347      >>%
13348      >>%
13349      }%
13350      \relax
13351      \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13352      \ifnum\Fld@listcount=1 %
13353      \HyField@AddToFields
13354      \fi
13355      \space % deliberate space between radio buttons
13356      }%
13357  }
13358  \newcount\Fld@listcount
13359  \def\@@ListBox#1{%
13360    \HyField@PDFChoices{#1}%
13361    \leavevmode
13362    \Hy@escapeform\PDFForm@List
13363    \pdfstartlink user {\PDFForm@List}\relax
13364    \MakeChoiceField{\Fld@width}{\Fld@height}%
13365    \pdfendlink
13366    \HyField@AddToFields
13367  }
13368  \def\@PushButton[#1]#2{% parameters, label
13369    \def\Fld@name{#2}%
13370    \begingroup
13371      \expandafter\HyField@SetKeys\expandafter{%
13372        \DefaultOptionsofPushButton,#1%
13373      }%
13374      \PDFForm@Name
13375      \ifHy@pdfa
13376        \Hy@Error{%
13377          PDF/A: Push button with JavaScript is prohibited%
13378        }\@ehc
13379        \LayoutPushButtonField{%
13380          \leavevmode
13381          \MakeButtonField{#2}%
13382        }%
13383      \else
13384        \HyField@FlagsPushButton
13385        \ifFld@hidden\def\Fld@width{1sp}\fi
13386        \LayoutPushButtonField{%
13387          \leavevmode
13388          \Hy@escapeform\PDFForm@Push
13389          \pdfstartlink user {\PDFForm@Push}\relax
13390          \MakeButtonField{#2}%
13391          \pdfendlink
13392          \HyField@AddToFields
13393        }%
13394      \fi
13395    \endgroup
13396  }
13397  \def\@Submit[#1]#2{%
13398    \def\Fld@width{\DefaultWidthofSubmit}%
13399    \def\Fld@height{\DefaultHeightofSubmit}%
13400    \begingroup
```

```

13401 \expandafter\HyField@SetKeys\expandafter{%
13402 \DefaultOptionsofSubmit,#1%
13403 }%
13404 \HyField@FlagsPushButton
13405 \HyField@FlagsSubmit
13406 \ifFld@hidden\def\Fld@width{1sp}\fi
13407 \leavevmode
13408 \Hy@escapeform\PDFForm@Submit
13409 \pdfstartlink user {%
13410 \PDFForm@Submit
13411 /AP<</N \SubmitObject/D \SubmitPObject>>%
13412 }%
13413 \relax
13414 \MakeButtonField{#2}%
13415 \pdfendlink
13416 \HyField@AddToFields
13417 \endgroup
13418 }
13419 \def\@Reset[#1]#2{%
13420 \def\Fld@width{\DefaultWidthofReset}%
13421 \def\Fld@height{\DefaultHeightofReset}%
13422 \begingroup
13423 \expandafter\HyField@SetKeys\expandafter{%
13424 \DefaultOptionsofReset,#1%
13425 }%
13426 \leavevmode
13427 \ifHy@pdfa
13428 \Hy@Error{%
13429 PDF/A: Reset action is prohibited%
13430 }\@ehc
13431 \MakeButtonField{#2}%
13432 \else
13433 \HyField@FlagsPushButton
13434 \ifFld@hidden\def\Fld@width{1sp}\fi
13435 \Hy@escapeform\PDFForm@Reset
13436 \pdfstartlink user {\PDFForm@Reset}\relax
13437 \MakeButtonField{#2}%
13438 \pdfendlink
13439 \HyField@AddToFields
13440 \fi
13441 \endgroup
13442 }
13443 \def\@CheckBox[#1]#2{% parameters, label
13444 \def\Fld@name{#2}%
13445 \def\Fld@default{0}%
13446 \begingroup
13447 \def\Fld@width{\DefaultWidthofCheckBox}%
13448 \def\Fld@height{\DefaultHeightofCheckBox}%
13449 \expandafter\HyField@SetKeys\expandafter{%
13450 \DefaultOptionsofCheckBox,#1%
13451 }%
13452 \PDFForm@Name
13453 \HyField@FlagsCheckBox
13454 \ifFld@hidden\def\Fld@width{1sp}\fi
13455 \LayoutCheckField{#2}{%
13456 \leavevmode
13457 \Hy@escapeform\PDFForm@Check

```



```

13458 \pdfstartlink user {\PDFForm@Check}\relax
13459 \MakeCheckField{\Fld@width}{\Fld@height}%
13460 \pdfendlink
13461 \HyField@AddToFields
13462 }%
13463 \endgroup
13464 }
13465 \def\Hy@FormObjects{%
13466 \pdfobj {%
13467 <<%
13468 /Type/Encoding%
13469 /Differences[%
13470 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13471 /ring/tilde %
13472 39/quotesingle %
13473 96/grave %
13474 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13475 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13476 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13477 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13478 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13479 164/currency %
13480 166/brokenbar %
13481 168/dieresis/copyright/ordfeminine %
13482 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13483 /twosuperior/threesuperior/acute/mu %
13484 183/periodcentered/cedilla/onesuperior/ordmasculine %
13485 188/onequarter/onehalf/threequarters %
13486 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13487 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13488 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13489 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13490 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13491 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13492 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13493 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13494 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13495 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13496 ]%
13497 >>%
13498 }%
13499 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
13500 \pdfobj{%
13501 <<%
13502 /Type/Font%
13503 /Subtype/Type1%
13504 /Name/ZaDb%
13505 /BaseFont/ZapfDingbats%
13506 >>%
13507 }%
13508 \xdef\OBJ@ZaDb{\the\pdflastobj}%
13509 \pdfobj{%
13510 <<%
13511 /Type/Font%
13512 /Subtype/Type1%
13513 /Name/Helv%
13514 /BaseFont/Helvetica%

```

```

13515      /Encoding \OBJ@pdfdocencoding\space 0 R%
13516      >>%
13517    }%
13518    \xdef\OBJ@Helv{\the\pdfastobj}%
13519    \global\let\Hy@FormObjects\relax
13520  }
13521 </pdfTeX>

```

## 48.5 dvipdfm, xetex

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

```

13522 <*dvipdfm | xetex>

```

\@Gauge

```

13523 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13524   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13525 }

```

\@Form

```

13526 \def\@Form[#1]{%
13527   \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13528   \kvsetkeys{Form}{#1}%
13529   \Hy@FormObjects
13530   \@pdfm@mark{obj @afields []}%
13531   \@pdfm@mark{obj @corder []}%
13532   \@pdfm@mark{%
13533     obj @aform <<%
13534     /Fields @afields%
13535     /DR<<%
13536     /Font<<%
13537     /ZaDb @OBJZaDb%
13538     /Helv @OBJHelv%
13539     >>%
13540     >>%
13541     /DA(/Helv 10 Tf 0 g)%
13542     /CO @corder%
13543     \ifHy@pdfa
13544     \else
13545       \ifHyField@NeedAppearances
13546       /NeedAppearances true%
13547       \fi
13548     \fi
13549     >>%
13550   }%
13551   \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13552 }

```

\@endForm

```

13553 \let\@endForm\ltx@empty

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

13554 \def\dvipdfm@setdim{%
13555   height \the\ht\pdfm@box\space
13556   width \the\wd\pdfm@box\space
13557   depth \the\dp\pdfm@box\space
13558 }

```

\HyField@AnnotCount

```
13559 \newcount\HyField@AnnotCount
13560 \HyField@AnnotCount=\z@
```

\HyField@AdvanceAnnotCount

```
13561 \def\HyField@AdvanceAnnotCount{%
13562   \global\advance\HyField@AnnotCount\@ne
13563 }
```

\HyField@TheAnnotCount

```
13564 \def\HyField@TheAnnotCount{%
13565   \the\HyField@AnnotCount
13566 }
```

\@TextField

```
13567 \def\@TextField[#1]#2{% parameters, label
13568   \def\Fld@name{#2}%
13569   \let\Fld@default\ltx@empty
13570   \let\Fld@value\@empty
13571   \def\Fld@width{\DefaultWidthofText}%
13572   \def\Fld@height{%
13573     \ifFld@multiline
13574       \DefaultHeightofTextMultiline
13575     \else
13576       \DefaultHeightofText
13577     \fi
13578   }%
13579   \begingroup
13580   \expandafter\HyField@SetKeys\expandafter{%
13581     \DefaultOptionsofText,#1%
13582   }%
13583   \PDFForm@Name
13584   \HyField@FlagsText
13585   \ifFld@hidden\def\Fld@width{1sp}\fi
13586   \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13587   \setbox\pdfm@box=\hbox{%
13588     \MakeTextField{\Fld@width}{\Fld@height}%
13589   }%
13590   \HyField@AdvanceAnnotCount
13591   \LayoutTextField{#2}{%
13592     \leavevmode
13593     \Hy@escapeform\PDFForm@Text
13594     \@pdfm@mark{%
13595       ann @text\HyField@TheAnnotCount\space
13596       \dvipdfm@setdim << \PDFForm@Text >>%
13597     }%
13598   }%
13599   \unhbox\pdfm@box
13600   \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13601   % record in @afields array
13602   \endgroup
13603 }
```

\@ChoiceMenu

```
13604 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13605   \def\Fld@name{#2}%
13606   \let\Fld@default\relax
```

```

13607 \let\Fld@value\relax
13608 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13609 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13610 \begingroup
13611 \Fld@menulength=0 %
13612 \@tempdima\z@
13613 \@for\@curropt:=#3\do{%
13614 \expandafter\Fld@checkequals\@curropt==\%
13615 \Hy@StepCount\Fld@menulength
13616 \settowidth{\@tempdimb}{\@currDisplay}%
13617 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13618 }%
13619 \advance\@tempdima by 15\p@
13620 \begingroup
13621 \HyField@SetKeys{#1}%
13622 \edef\x{\endgroup
13623 \noexpand\expandafter
13624 \noexpand\HyField@SetKeys
13625 \noexpand\expandafter{%
13626 \expandafter\noexpand\cname DefaultOptionsof%
13627 \ifFld@radio
13628 Radio%
13629 \else
13630 \ifFld@combo
13631 \ifFld@popdown
13632 PopdownBox%
13633 \else
13634 ComboBox%
13635 \fi
13636 \else
13637 ListBox%
13638 \fi
13639 \fi
13640 \endcname
13641 }%
13642 }\x
13643 \HyField@SetKeys{#1}%
13644 \PDFForm@Name
13645 \ifFld@hidden\def\Fld@width{1sp}\fi
13646 \ifx\Fld@value\relax
13647 \let\Fld@value\Fld@default
13648 \fi
13649 \LayoutChoiceField{#2}{%
13650 \ifFld@radio
13651 \HyField@FlagsRadioButton
13652 \@@Radio{#3}%
13653 \else
13654 \begingroup
13655 \HyField@FlagsChoice
13656 \ifdim\Fld@width<\@tempdima
13657 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13658 \edef\Fld@width{\the\@tempdima}%
13659 \fi
13660 \ifFld@combo
13661 \else
13662 \@tempdima=\the\Fld@menulength\Fld@charsize
13663 \advance\@tempdima by \Fld@borderwidth bp %

```

```

13664         \advance\@tempdima by \Fld@borderwidth bp %
13665         \edef\Fld@height{\the\@tempdima}%
13666     \fi
13667     \@@ListBox{#3}%
13668 \endgroup
13669 \fi
13670 }%
13671 \endgroup
13672 }

```

\@@Radio

```

13673 \def\@@Radio#1{%
13674   \Fld@listcount=0 %
13675   \EdefEscapeName\Fld@default{\Fld@default}%
13676   \setbox\pdfm@box=\hbox{%
13677     \MakeRadioField{\Fld@width}{\Fld@height}%
13678   }%
13679   \@for\@curropt:=#1\do{%
13680     \expandafter\Fld@checkequals\@curropt==\%
13681     \EdefEscapeName\@currValue{\@currValue}%
13682     \Hy@StepCount\Fld@listcount
13683     \@currDisplay\space
13684     \leavevmode
13685     \Hy@escapeform\PDFForm@Radio
13686     \ifnum\Fld@listcount=1 %
13687       \HyField@AdvanceAnnotCount
13688     \fi
13689     \@pdfm@mark{%
13690       ann %
13691       \ifnum\Fld@listcount=1 %
13692         @radio\HyField@TheAnnotCount%
13693       \space
13694     \fi
13695     \dvipdfm@setdim
13696     <<%
13697     \PDFForm@Radio
13698     /AP<</N<</\@currValue /null>>>>%
13699     >>%
13700   }%
13701   \unhcopy\pdfm@box\space% deliberate space between radio buttons
13702   \ifnum\Fld@listcount=1 %
13703     \@pdfm@mark{%
13704       put @afields @radio\HyField@TheAnnotCount
13705     }%
13706   \fi
13707 }%
13708 }

```

\Fld@listcount

```

13709 \newcount\Fld@listcount

```

\@@ListBox

```

13710 \def\@@ListBox#1{%
13711   \HyField@PDFChoices{#1}%
13712   \setbox\pdfm@box=\hbox{%
13713     \MakeChoiceField{\Fld@width}{\Fld@height}%
13714   }%

```

```

13715 \leavevmode
13716 \Hy@escapeform\PDFForm@List
13717 \HyField@AdvanceAnnotCount
13718 \@pdfm@mark{%
13719   ann @list\HyField@TheAnnotCount\space
13720   \dvi pdfm@setdim
13721   <<\PDFForm@List>>%
13722 }%
13723 \unhbox\pdfm@box
13724 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
13725 }

```

#### \@PushButton

```

13726 \def\@PushButton[#1]#2{% parameters, label
13727   \def\Fld@name{#2}%
13728   \begingroup
13729     \expandafter\HyField@SetKeys\expandafter{%
13730       \DefaultOptionsofPushButton,#1%
13731     }%
13732     \PDFForm@Name
13733     \ifHy@pdfa
13734       \Hy@Error{%
13735         PDF/A: Push button with JavaScript is prohibited%
13736       } \@ehc
13737       \LayoutPushButtonField{%
13738         \leavevmode
13739         \MakeButtonField{#2}%
13740       }%
13741     \else
13742       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13743       \HyField@FlagsPushButton
13744       \ifFld@hidden\def\Fld@width{1sp}\fi
13745       \HyField@AdvanceAnnotCount
13746       \LayoutPushButtonField{%
13747         \leavevmode
13748         \Hy@escapeform\PDFForm@Push
13749         \@pdfm@mark{%
13750           ann @push\HyField@TheAnnotCount\space
13751           \dvi pdfm@setdim
13752           <<\PDFForm@Push>>%
13753         }%
13754       }%
13755       \unhbox\pdfm@box
13756       \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
13757     \fi
13758   \endgroup
13759 }

```

#### \@Submit

```

13760 \def\@Submit[#1]#2{%
13761   \def\Fld@width{\DefaultWidthofSubmit}%
13762   \def\Fld@height{\DefaultHeightofSubmit}%
13763   \begingroup
13764     \expandafter\HyField@SetKeys\expandafter{%
13765       \DefaultOptionsofSubmit,#1%
13766     }%
13767     \HyField@FlagsPushButton

```

```

13768 \HyField@FlagsSubmit
13769 \ifFld@hidden\def\Fld@width{1sp}\fi
13770 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}}%
13771 \leavevmode
13772 \Hy@escapeform\PDFForm@Submit
13773 \HyField@AdvanceAnnotCount
13774 \@pdfm@mark{%
13775   ann @submit\HyField@TheAnnotCount\space
13776   \dvipdfm@setdim
13777   <<\PDFForm@Submit>>%
13778 }%
13779 \unhbox\pdfm@box%
13780 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
13781 \endgroup
13782 }

```

#### \@Reset

```

13783 \def\@Reset[#1]#2{%
13784   \def\Fld@width{\DefaultWidthofReset}%
13785   \def\Fld@height{\DefaultHeightofReset}%
13786   \begingroup
13787     \expandafter\HyField@SetKeys\expandafter{%
13788       \DefaultOptionsofReset,#1%
13789     }%
13790     \leavevmode
13791     \ifHy@pdfa
13792       \Hy@Error{%
13793         PDF/A: Reset action is prohibited%
13794       }\@ehc
13795       \MakeButtonField{#2}%
13796     \else
13797       \HyField@FlagsPushButton
13798       \ifFld@hidden\def\Fld@width{1sp}\fi
13799       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}}%
13800       \Hy@escapeform\PDFForm@Reset
13801       \HyField@AdvanceAnnotCount
13802       \@pdfm@mark{%
13803         ann @reset\HyField@TheAnnotCount\space
13804         \dvipdfm@setdim
13805         <<\PDFForm@Reset>>%
13806       }%
13807       \unhbox\pdfm@box
13808       \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
13809     \fi
13810   \endgroup
13811 }

```

#### \@CheckBox

```

13812 \def\@CheckBox[#1]#2{% parameters, label
13813   \def\Fld@name{#2}%
13814   \def\Fld@default{0}%
13815   \begingroup
13816     \def\Fld@width{\DefaultWidthofCheckBox}%
13817     \def\Fld@height{\DefaultHeightofCheckBox}%
13818     \expandafter\HyField@SetKeys\expandafter{%
13819       \DefaultOptionsofCheckBox,#1%
13820     }%

```

```

13821 \PDFForm@Name
13822 \HyField@FlagsCheckBox
13823 \ifFld@hidden\def\Fld@width{1sp}\fi
13824 \setbox\pdfm@box=\hbox{%
13825   \MakeCheckField{\Fld@width}{\Fld@height}%
13826 }%
13827 \HyField@AdvanceAnnotCount
13828 \LayoutCheckField{#2}{%
13829   \leavevmode
13830   \Hy@escapeform\PDFForm@Check
13831   \@pdfm@mark{%
13832     ann @check\HyField@TheAnnotCount\space
13833     \dvpdfm@setdim
13834     <<\PDFForm@Check>>%
13835   }%
13836   \unhbox\pdfm@box
13837   \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
13838 }%
13839 \endgroup
13840 }

13841 \def\Hy@FormObjects{%
13842   \@pdfm@mark{obj @OBJpdfdocencoding%
13843     <<%
13844       /Type/Encoding%
13845       /Differences[
13846         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13847         39/quotesingle %
13848         96/grave %
13849         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13850         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13851         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13852         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13853         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13854         164/currency %
13855         166/brokenbar %
13856         168/dieresis/copyright/ordfeminine %
13857         172/logicalnot/.notdef/registered/macron/degree/plusminus%
13858         /twosuperior/threesuperior/acute/mu %
13859         183/periodcentered/cedilla/onesuperior/ordmasculine %
13860         188/onequarter/onehalf/threequarters %
13861         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13862         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13863         /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13864         /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13865         /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13866         /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13867         /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13868         /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
13869         /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13870         /thorn/ydieresis%
13871       ]%
13872     >>%
13873   }%
13874   \@pdfm@mark{obj @OBJZaDb%
13875     <<%
13876       /Type/Font%
13877       /Subtype/Type1%

```



```

13878 /Name/ZaDb%
13879 /BaseFont/ZapfDingbats%
13880 >>%
13881 }%
13882 \@pdfm@mark{obj @OBJHelv%
13883 <<%
13884 /Type/Font%
13885 /Subtype/Type1%
13886 /Name/Helv%
13887 /BaseFont/Helvetica%
13888 /Encoding @OBJpdfdocencoding%
13889 >>%
13890 }%
13891 \global\let\Hy@FormObjects\relax
13892 }
13893 </dvipdfm | xetex>

```

## 48.6 Common forms part

```

13894 <*pdfform>

\Hy@escapestring
13895 \begingroup\expandafter\expandafter\expandafter\endgroup
13896 \expandafter\ifx\csname pdfescapestring\endcsname\relax
13897 \let\Hy@escapestring\@firstofone
13898 \def\Hy@escapeform#1{%
13899 \ifHy@pdfescapeform
13900 \def\Hy@escapestring##1{%
13901 \noexpand\Hy@escapestring{\noexpand##1}%
13902 }%
13903 \edef\Hy@temp{##1}%
13904 \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13905 \def\Hy@escapestring##1{%
13906 \@ifundefined{Hy@esc@\string##1}{%
13907 ##1%
13908 \ThisShouldNotHappen
13909 }{%
13910 \csname Hy@esc@\string##1\endcsname
13911 }%
13912 }%
13913 \else
13914 \let\Hy@escapestring\@firstofone
13915 \fi
13916 }%
13917 \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
13918 \ifx\#3\%
13919 \else
13920 \expandafter
13921 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13922 \ltx@ReturnAfterFi{%
13923 \Hy@@@escapeform#3\@nil
13924 }%
13925 \fi
13926 }%
13927 \else
13928 \def\Hy@escapeform#1{%
13929 \ifHy@pdfescapeform
13930 \let\Hy@escapestring\pdfescapestring

```

```

13931 \else
13932 \let\Hy@escapestring\@firstofone
13933 \fi
13934 }%
13935 \Hy@escapeform{}%
13936 \fi

```

#### \PDFForm@Name

```

13937 \def\PDFForm@Name{%
13938 \PDFForm@@Name\Fld@name
13939 \ifx\Fld@altname\relax
13940 \else
13941 \PDFForm@@Name\Fld@altname
13942 \fi
13943 \ifx\Fld@mappingname\relax
13944 \else
13945 \PDFForm@@Name\Fld@mappingname
13946 \fi
13947 }

```

#### \PDFForm@@Name

```

13948 \def\PDFForm@@Name#1{%
13949 \begingroup
13950 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
13951 \ifHy@unicode
13952 \Hy@unicodetrue
13953 \fi
13954 \fi
13955 \HyPsd@XeTeXBigCharstrue
13956 \pdfstringdef\Hy@gtemp#1%
13957 \endgroup
13958 \let#1\Hy@gtemp
13959 }

```

#### \Fld@additionalactions

```

13960 \def\Fld@@additionalactions{%
K input (keystroke) format
13961 \ifx\Fld@keystroke@code\@empty
13962 \else
13963 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13964 \fi
F display format
13965 \ifx\Fld@format@code\@empty
13966 \else
13967 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13968 \fi
V validation
13969 \ifx\Fld@validate@code\@empty
13970 \else
13971 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13972 \fi
C calculation
13973 \ifx\Fld@calculate@code\@empty
13974 \else
13975 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13976 \fi

```

Fo receiving the input focus

```
13977 \ifx\Fld@onfocus@code\@empty
13978 \else
13979 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13980 \fi
```

Bl loosing the input focus (blurred)

```
13981 \ifx\Fld@onblur@code\@empty
13982 \else
13983 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13984 \fi
```

D pressing the mouse button (down)

```
13985 \ifx\Fld@onmousedown@code\@empty
13986 \else
13987 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13988 \fi
```

U releasing the mouse button (up)

```
13989 \ifx\Fld@onmouseup@code\@empty
13990 \else
13991 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13992 \fi
```

E cursor enters the annotation's active area.

```
13993 \ifx\Fld@onenter@code\@empty
13994 \else
13995 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13996 \fi
```

X cursor exits the annotation's active area.

```
13997 \ifx\Fld@onexit@code\@empty
13998 \else
13999 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
14000 \fi
14001 }
14002 \def\Fld@additionalactions{%
14003 \if\Fld@@additionalactions-%
14004 \else
14005 \ifHy@pdfa
14006 \else
14007 /AA<<\Fld@@additionalactions>>%
14008 \fi
14009 \fi
14010 }
```

\Fld@annotnames

```
14011 \def\Fld@annotnames{%
14012 /T(\Fld@name)%
14013 \ifx\Fld@altname\relax
14014 \else
14015 /TU(\Fld@altname)%
14016 \fi
14017 \ifx\Fld@mappingname\relax
14018 \else
14019 /TM(\Fld@mappingname)%
14020 \fi
14021 }
```

\PDFForm@Check

```
14022 \def\PDFForm@Check{%
14023   /Subtype/Widget%
14024   \Fld@annotflags
14025   \Fld@annotnames
14026   /FT/Btn%
14027   \Fld@flags
14028   /Q \Fld@align
14029   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
14030   /MK<<%
14031     \ifnum\Fld@rotation=\z@
14032     \else
14033       /R \Fld@rotation
14034     \fi
14035     \ifx\Fld@bordercolor\relax
14036     \else
14037       /BC[\Fld@bordercolor]%
14038     \fi
14039     \ifx\Fld@bcolor\relax
14040     \else
14041       /BG[\Fld@bcolor]%
14042     \fi
14043     /CA(\Hy@escapestring{\Fld@cbsymbol})%
14044   >>%
14045   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14046     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14047   /H/P%
14048   \ifFld@checked /V/Yes\else /V/Off\fi
14049   \Fld@additionalactions
14050 }
```

\PDFForm@Push

```
14051 \ifHy@pdfa
14052 \else
14053   \def\PDFForm@Push{%
14054     /Subtype/Widget%
14055     \Fld@annotflags
14056     \Fld@annotnames
14057     /FT/Btn%
14058     \Fld@flags
14059     /H/P%
14060     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14061     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14062       \ifx\Fld@bordercolor\relax\else 1\fi
14063       \space
14064     \else
14065       /MK<<%
14066       \ifnum\Fld@rotation=\z@
14067       \else
14068         /R \Fld@rotation
14069       \fi
14070       \ifx\Fld@bordercolor\relax
14071       \else
14072         /BC[\Fld@bordercolor]%
14073       \fi
14074     >>%
14075     \fi
```

```

14076    /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14077    \Fld@additionalactions
14078  }%
14079 \fi

```

#### \PDFForm@List

```

14080 \def\PDFForm@List{%
14081   /Subtype/Widget%
14082   \Fld@annotflags
14083   \Fld@annotnames
14084   /FT/Ch%
14085   \Fld@flags
14086   /Q \Fld@align
14087   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14088   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14089     \ifx\Fld@bordercolor\relax\else 1\fi
14090     \ifx\Fld@bcolor\relax \else 1\fi
14091     \space
14092   \else
14093     /MK<<%
14094     \ifnum\Fld@rotation=\z@
14095     \else
14096       /R \Fld@rotation
14097     \fi
14098     \ifx\Fld@bordercolor\relax
14099     \else
14100       /BC[\Fld@bordercolor]%
14101     \fi
14102     \ifx\Fld@bcolor\relax
14103     \else
14104       /BG[\Fld@bcolor]%
14105     \fi
14106   >>%
14107 \fi
14108 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14109   \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14110 \Fld@choices
14111 \Fld@additionalactions
14112 }

```

#### \PDFForm@Radio

```

14113 \def\PDFForm@Radio{%
14114   /Subtype/Widget%
14115   \Fld@annotflags
14116   \Fld@annotnames
14117   /FT/Btn%
14118   \Fld@flags
14119   /H/P%
14120   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14121   /MK<<%
14122   \ifnum\Fld@rotation=\z@
14123   \else
14124     /R \Fld@rotation
14125   \fi
14126   \ifx\Fld@bordercolor\relax
14127   \else
14128     /BC[\Fld@bordercolor]%

```

```

14129 \fi
14130 \ifx\Fld@bcolor\relax
14131 \else
14132 /BG[\Fld@bcolor]%
14133 \fi
14134 /CA(\Fld@radiosymbol)%
14135 >>%
14136 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14137 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14138 \ifx\@currValue\Fld@default
14139 /V/\Fld@default
14140 /DV/\Fld@default
14141 \else
14142 /V/Off%
14143 /DV/Off%
14144 \fi
14145 \Fld@additionalactions
14146 }

```

#### \PDFForm@Text

```

14147 \def\PDFForm@Text{%
14148 /Subtype/Widget%
14149 \Fld@annotflags
14150 \Fld@annotnames
14151 /FT/Tx%
14152 \Fld@flags
14153 /Q \Fld@align
14154 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14155 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14156 \ifx\Fld@bordercolor\relax\else 1\fi
14157 \ifx\Fld@bcolor\relax \else 1\fi
14158 \space
14159 \else
14160 /MK<<%
14161 \ifnum\Fld@rotation=\z@
14162 \else
14163 /R \Fld@rotation
14164 \fi
14165 \ifx\Fld@bordercolor\relax
14166 \else
14167 /BC[\Fld@bordercolor]%
14168 \fi
14169 \ifx\Fld@bcolor\relax
14170 \else
14171 /BG[\Fld@bcolor]%
14172 \fi
14173 >>%
14174 \fi
14175 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14176 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14177 /DV(\Hy@escapestring{\Fld@default})%
14178 /V(\Hy@escapestring{\Fld@value})%
14179 \Fld@additionalactions
14180 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14181 }

```

#### \PDFForm@Submit

```

14182 \def\PDFForm@Submit{%
14183   /Subtype/Widget%
14184   \Fld@annotflags
14185   \Fld@annotnames
14186   /FT/Btn%
14187   \Fld@flags
14188   /H/P%
14189   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14190   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14191     \ifx\Fld@bordercolor\relax\else 1\fi
14192     \space
14193   \else
14194     /MK<<%
14195     \ifnum\Fld@rotation=\z@
14196     \else
14197       /R \Fld@rotation
14198     \fi
14199     \ifx\Fld@bordercolor\relax
14200     \else
14201       /BC[\Fld@bordercolor]%
14202     \fi
14203   >>%
14204   \fi
14205   /A<<%
14206   /S/SubmitForm%
14207   /F<<%
14208   /FS/URL%
14209   /F(\Hy@escapestring{\Form@action})%
14210   >>%
14211   \Fld@submitflags
14212   >>%
14213   \Fld@additionalactions
14214 }

```

\PDFForm@Reset

```

14215 \ifHy@pdfa
14216 \else
14217   \def\PDFForm@Reset{%
14218     /Subtype/Widget%
14219     \Fld@annotflags
14220     \Fld@annotnames
14221     /FT/Btn%
14222     \Fld@flags
14223     /H/P%
14224     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14225     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14226       \ifx\Fld@bordercolor\relax\else 1\fi
14227       \space
14228     \else
14229       /MK<<%
14230       \ifnum\Fld@rotation=\z@
14231       \else
14232         /R \Fld@rotation
14233       \fi
14234       \ifx\Fld@bordercolor\relax
14235       \else
14236         /BC[\Fld@bordercolor]%
14237       \fi

```

```

14238 %      /CA (Clear)
14239 %      /AC (Done)
14240      >>%
14241      \fi
14242      /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14243      /A<</S/ResetForm>>%
14244      \Fld@additionalactions
14245      }%
14246      \fi

14247 </pdfform>
14248 <*package>

```

## 49 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in  $\text{\LaTeX}$  macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

14249 \def\phantomsection{%
14250   \Hy@MakeCurrentHrefAuto{section*}%
14251   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14252 }
14253 </package>

```

### 49.1 Bookmarks

```

14254 <*outlines>

```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on  $\varepsilon\text{-TeX}$ , the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of  $\varepsilon\text{-TeX}$ 's implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the `bookmark@seq@number` counter is used to write the bookmark's sequential number into a comment in the `\@outlinefile`, which could be used to post-process it to achieve the proper ordering of `\BOOKMARK` commands in that file.

```

14255 \def\Hy@writebookmark#1#2#3#4#5{%
14256   % section number, text, label, level, file
14257   \ifx\WriteBookmarks\relax%
14258     \else
14259     \ifnum#4>\Hy@bookmarksdepth\relax
14260     \else

```



```

14261 \@@writetorep{#1}{#2}{#3}{#4}{#5}%
14262 \fi
14263 \fi
14264 }
14265 \def\Hy@currentbookmarklevel{0}
14266 \def\Hy@numberline#1{#1 }
14267 \def\@@writetorep#1#2#3#4#5{%
14268 \begingroup
14269 \edef\Hy@tempa{#5}%
14270 \ifx\Hy@tempa\Hy@bookmarkstype
14271 \edef\Hy@level{#4}%
14272 \ifx\Hy@levelcheck Y%
14273 \@tempcnta\Hy@level\relax
14274 \advance\@tempcnta by -1 %
14275 \ifnum\Hy@currentbookmarklevel<\@tempcnta
14276 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14277 \advance\@tempcnta by 1 %
14278 \Hy@Warning{%
14279 Difference (\the\@tempcnta) between bookmark levels is %
14280 greater \MessageBreak than one, level fixed%
14281 }%
14282 \@tempcnta\Hy@currentbookmarklevel
14283 \advance\@tempcnta by 1 %
14284 \edef\Hy@level{\the\@tempcnta}%
14285 \fi
14286 \else
14287 \global\let\Hy@levelcheck Y%
14288 \fi
14289 \global\let\Hy@currentbookmarklevel\Hy@level
14290 \@tempcnta\Hy@level\relax
14291 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14292 \advance\@tempcnta by -1 %
14293 \edef\Hy@tempa{#3}%
14294 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14295 \ifx\Hy@tempa\Hy@tempb
14296 \Hy@Warning{%
14297 The anchor of a bookmark and its parent's must not%
14298 \MessageBreak be the same. Added a new anchor%
14299 }%
14300 \phantomsection
14301 \fi
14302 \ifHy@bookmarksnumbered
14303 \let\numberline\Hy@numberline
14304 \let\booknumberline\Hy@numberline
14305 \let\partnumberline\Hy@numberline
14306 \let\chapternumberline\Hy@numberline
14307 \else
14308 \let\numberline\@gobble
14309 \let\booknumberline\@gobble
14310 \let\partnumberline\@gobble
14311 \let\chapternumberline\@gobble
14312 \fi
14313 \HyPsd@XeTeXBigCharstrue
14314 \pdfstringdef\Hy@tempa{#2}%
14315 \HyPsd@SanitizeForOutFile\Hy@tempa
14316 \if@filesw
14317 \stepcounter{bookmark@seq@number}%

```

```

14318 \ifundefined{@outlinefile}{%
14319 }{%
14320 \protected@write{@outlinefile}{{%
14321 \protect\BOOKMARK
14322 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14323 {\Hy@tempa}{\Hy@tempb}}%
14324 \@percentchar\space\thebookmark@seq@number
14325 }%
14326 }%
14327 \fi
14328 \fi
14329 \endgroup
14330 }
14331 \newcounter{bookmark@seq@number}

14332 \begingroup
14333 \lccode'('= '{%
14334 \lccode')='}%
14335 \lccode'1=\z@
14336 \lccode'2=\z@
14337 \lccode'3=\z@
14338 \lccode'5=\z@
14339 \lccode'7=\z@
14340 \lccode'\#=\z@
14341 \lccode'\='=\z@
14342 \lccode'\{=\z@
14343 \lccode'\}=\z@
14344 \lowercase{%
14345 \endgroup
14346 \def\HyPsd@SanitizeForOutFile#1{%
14347 \@onelevel@sanitize\Hy@tempa
14348 \escapechar'\%
14349 \edef\Hy@tempa{%
14350 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14351 }%
14352 \edef\Hy@tempa{%
14353 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14354 }%
14355 }%
14356 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14357 #1%
14358 \ifx\#2\%
14359 \expandafter\ltx@gobble
14360 \else
14361 \expandafter\ltx@firstofone
14362 \fi
14363 {%
14364 \string\173%
14365 \HyPsd@SanitizeOut@BraceLeft#2\@nil
14366 }%
14367 }%
14368 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14369 #1%
14370 \ifx\#2\%
14371 \expandafter\ltx@gobble
14372 \else
14373 \expandafter\ltx@firstofone
14374 \fi

```

```

14375  {%
14376    \string\175%
14377    \HyPsd@SanitizeOut@BraceRight#2\@nil
14378  }%
14379 }%
14380 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14381 \newcommand{\currentpdfbookmark}{%
14382   \pdfbookmark[\Hy@currentbookmarklevel]%
14383 }
14384 \newcommand{\subpdfbookmark}{%
14385   \@tempcnta\Hy@currentbookmarklevel
14386   \Hy@StepCount\@tempcnta
14387   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14388 }
14389 \newcommand{\belowpdfbookmark}[2]{%
14390   \@tempcnta\Hy@currentbookmarklevel
14391   \Hy@StepCount\@tempcnta
14392   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14393   \advance\@tempcnta by -1 %
14394   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14395 }

```

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.

```

14396 \renewcommand\pdfbookmark[3][0]{%
14397   \Hy@writebookmark{}{#2}{#3.#1}{#1}{toc}%
14398   \hyper@anchorstart{#3.#1}\hyper@anchorend
14399 }
14400 \def\BOOKMARK{%
14401   \ifnextchar{\@BOOKMARK}{\@BOOKMARK[1][-]}%
14402 }
14403 \def\@BOOKMARK[#1]{%
14404   \ifnextchar{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
14405 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

#### 49.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

14406 \RequirePackage{rerunfilecheck}[2009/12/10]
14407 \def\Hy@OutlineRerunCheck{%
14408   \RerunFileCheck{\jobname.out}{%
14409     \immediate\closeout\@outlinefile
14410   }{%
14411     Rerun to get outlines right\MessageBreak
14412     or use package 'bookmark'%
14413   }%
14414 }

```

#### 49.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou ([denis.girou@idris.fr](mailto:denis.girou@idris.fr)), then by Taco Hoekwater ([taco.hoekwater@wkap](mailto: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.

```
14415 \(*vtx)
14416 \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.

```
14417 \begingroup
14418 \catcode'\'=12 %
14419 \ifnum\Hy@VTeXversion<650 %
14420 \catcode'\'=12 %
14421 \gdef\hv@pdf@char#1#2#3{%
14422 \char
14423 \ifcase'#1#2#3 %
14424 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14425 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14426 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14427 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14428 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14429 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14430 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14431 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14432 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14433 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14434 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14435 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14436 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14437 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14438 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14439 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14440 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14441 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14442 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14443 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14444 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14445 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14446 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14447 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14448 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14449 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14450 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14451 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14452 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14453 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14454 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14455 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14456 \fi
14457 }%
14458 \else
14459 \gdef\hv@pdf@char{\char'}%
14460 \fi
14461 \endgroup
```

\@@BOOKMARK

```
14462 \def\@@BOOKMARK[#1][#2]#3#4#5{%
```

```

14463 \expandafter\edef\csname @count@#3\endcsname{%
14464   \the\@serial@counter
14465 }%
14466 \edef\@mycount{\the\@serial@counter}%
14467 \Hy@StepCount\@serial@counter
14468 \edef\@parcount{%
14469   \expandafter\ifx\csname @count@#5\endcsname\relax
14470     0%
14471   \else
14472     \csname @count@#5\endcsname
14473   \fi
14474 }%
14475 \immediate\special{%
14476   !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14477   s=\ifx#2-c\else o\fi,t=#4%
14478 }%
14479 }%

```

\ReadBookmarks

```

14480 \def\ReadBookmarks{%
14481   \begingroup
14482   \def\0{\hv@pdf@char 0}%
14483   \def\1{\hv@pdf@char 1}%
14484   \def\2{\hv@pdf@char 2}%
14485   \def\3{\hv@pdf@char 3}%
14486   \def\({}%
14487   \def\)}%
14488   \def\do##1{%
14489     \ifnum\catcode'##1=\active
14490       \@makeother##1%
14491     \else
14492       \ifnum\catcode'##1=6 %
14493         \@makeother##1%
14494       \fi
14495     \fi
14496   }%
14497   \dospecials
14498   \Hy@safe@activestrue
14499   \InputIfFileExists{\jobname.out}{\}{}%
14500 \endgroup
14501 \ifx\WriteBookmarks\relax
14502 \else
14503   \if@filesw
14504     \newwrite\@outlinefile
14505     \Hy@OutlineRerunCheck
14506     \immediate\openout\@outlinefile=\jobname.out\relax
14507     \ifHy@typexml
14508       \immediate\write\@outlinefile{<relaxxml>\relax}%
14509     \fi
14510   \fi
14511 \fi
14512 }

14513 </vtex>
14514 <!*vtex>
14515 \def\ReadBookmarks{%
14516   \pdf@ifdraftmode{\}{%

```

```

14517 \begingroup
14518 \def\do##1{%
14519 \ifnum\catcode'##1=\active
14520 \@makeother##1%
14521 \else
14522 \ifnum\catcode'##1=6 %
14523 \@makeother##1%
14524 \fi
14525 \fi
14526 }%
14527 \dospecials
14528 \Hy@safe@activetrue
14529 \escapechar=\%
14530 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14531 \calc@bm@number{##5}%
14532 }%
14533 \InputIfFileExists{jobname.out}{\relax}{\relax}%
14534 \ifx\WriteBookmarks\relax
14535 \global\let\WriteBookmarks\relax
14536 \fi
14537 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14538 \def\Hy@temp{##4}%
14539 \*pdfTeX
14540 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14541 \Hy@OutlineName{}\Hy@pstringName{%
14542 ##2\check@bm@number{##3}%
14543 }{%
14544 \expandafter\strip@prefix\meaning\Hy@temp
14545 }%
14546 \*pdfTeX
14547 \*pdfmark
14548 \pdfmark{%
14549 pdfmark=/OUT,%
14550 Count={##2\check@bm@number{##3}},%
14551 Dest={##3},%
14552 Title=\expandafter\strip@prefix\meaning\Hy@temp
14553 }%
14554 \*pdfmark
14555 \*dvipdfm|xetex
14556 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14557 \*pdfm@mark{%
14558 outline \ifHy@DvipdfmxOutlineOpen
14559 [%
14560 \ifnum##21>\z@
14561 \else
14562 -%
14563 \fi
14564 ] %
14565 \fi
14566 ##1<<%
14567 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14568 /A<<%
14569 /S/GoTo%
14570 /D(\Hy@pstringName)%
14571 >>%
14572 >>%
14573 }%

```

```

14574 </dvipdfm | xetex>
14575 }%
14576 \begingroup
14577 \def\WriteBookmarks{0}%
14578 \InputIfFileExists{\jobname.out}{-}{-}%
14579 \endgroup
14580 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
14581 \endgroup
14582 }%
14583 \ifx\WriteBookmarks\relax
14584 \else
14585 \if@filesw
14586 \newwrite\@outlinefile
14587 \Hy@OutlineRerunCheck
14588 \immediate\openout\@outlinefile=\jobname.out\relax
14589 \ifHy@typexml
14590 \immediate\write\@outlinefile{<relaxxml>\relax}%
14591 \fi
14592 \fi
14593 \fi
14594 }
14595 <*pdfTeX>
14596 \def\Hy@OutlineName#1#2#3#4{%
14597 \pdfoutline goto name{#2}count#3{#4}%
14598 }
14599 </pdfTeX>
14600 \def\check@bm@number#1{%
14601 \expandafter\ifx\csname B_#1\endcsname\relax
14602 0%
14603 \else
14604 \csname B_#1\endcsname
14605 \fi
14606 }
14607 \def\calc@bm@number#1{%
14608 \@tempcnta=\check@bm@number{#1}\relax
14609 \advance\@tempcnta by 1 %
14610 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14611 }
14612 </!vTeX>
14613 \ifHy@implicit
14614 \else
14615 \expandafter\endinput
14616 \fi
14617 </outlines>
14618 <*outlines | hypertex>
14619 \newlength\Hy@SectionHShift
14620 \def\Hy@SectionAnchorHref#1{%
14621 \ifx\protect\@typeset@protect
14622 \Hy@@@SectionAnchor{#1}%
14623 \fi
14624 }
14625 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
14626 \leavevmode
14627 \hbox to 0pt{%
14628 \kern-\Hy@SectionHShift
14629 \Hy@raisedlink{%

```

```

14630 \hyper@anchorstart{#1}\hyper@anchorend
14631 }%
14632 \hss
14633 }%
14634 }
14635 \let\H@old@ssect\@ssect
14636 \def\@ssect#1#2#3#4#5{%
14637 \Hy@MakeCurrentHrefAuto{section*}%
14638 \setlength{\Hy@SectionHShift}{#1}%
14639 \begingroup
14640 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14641 \toks\tw@\expandafter{%
14642 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14643 #5%
14644 }%
14645 \edef\x{\endgroup
14646 \the\toks@\the\toks\tw@}%
14647 }\x
14648 }
14649 \let\H@old@schapter\@schapter
14650 \def\@schapter#1{%
14651 \begingroup
14652 \let\@mkboth\@gobbletwo
14653 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14654 \Hy@raisedlink{%
14655 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14656 }%
14657 \endgroup
14658 \H@old@schapter{#1}%
14659 }

```

If there is no chapter number (`\frontmatter` or `\backmatter`) then the counting by `\refstepcounter{chapter}` is not executed, so there will be no destination for `\ddcontentsline`. So `\@chapter` is overloaded to avoid this:

```

14660 \ltx@ifundefined{@chapter}{}{%
14661 \let\Hy@org@chapter\@chapter
14662 \def\@chapter{%
14663 \def\Hy@next{%
14664 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14665 \Hy@raisedlink{%
14666 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14667 }%
14668 }%
14669 \ifnum\c@secnumdepth>\m@ne
14670 \ltx@ifundefined{if@mainmatter}%
14671 \iftrue{\csname if@mainmatter\endcsname}%
14672 \let\Hy@next\relax
14673 \fi
14674 \fi
14675 \Hy@next
14676 \Hy@org@chapter
14677 }%
14678 }

14679 \let\H@old@part\@part
14680 \begingroup\expandafter\expandafter\expandafter\endgroup
14681 \expandafter\ifx\csname chapter\endcsname\relax
14682 \let\Hy@secnum@part\z@

```



```

14683 \else
14684 \let\Hy@secnum@part\m@ne
14685 \fi
14686 \def\@part{%
14687 \ifnum\Hy@secnum@part>\c@secnumdepth
14688 \phantomsection
14689 \fi
14690 \H@old@part
14691 }

14692 \let\H@old@spart\@spart
14693 \def\@spart#1{%
14694 \Hy@MakeCurrentHrefAuto{part*}%
14695 \Hy@raisedlink{%
14696 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14697 }%
14698 \H@old@spart{#1}%
14699 }

14700 \let\H@old@sect\@sect
14701 \def\@sect#1#2#3#4#5#6[#7]#8{%
14702 \ifnum #2>\c@secnumdepth
14703 \expandafter\@firstoftwo
14704 \else
14705 \expandafter\@secondoftwo
14706 \fi
14707 {%
14708 \Hy@MakeCurrentHrefAuto{section*}%
14709 \setlength{\Hy@SectionHShift}{#3}%
14710 \begingroup
14711 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
14712 \toks\tw@\expandafter{%
14713 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14714 #8%
14715 }%
14716 \edef\x{\endgroup
14717 \the\toks@\the\toks\tw@}%
14718 }\x
14719 }{%
14720 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
14721 }%
14722 }

14723 </outlines | hypertex>
14724 <*outlines>

14725 \expandafter\def\csname Parent-4\endcsname{}
14726 \expandafter\def\csname Parent-3\endcsname{}
14727 \expandafter\def\csname Parent-2\endcsname{}
14728 \expandafter\def\csname Parent-1\endcsname{}
14729 \expandafter\def\csname Parent0\endcsname{}
14730 \expandafter\def\csname Parent1\endcsname{}
14731 \expandafter\def\csname Parent2\endcsname{}
14732 \expandafter\def\csname Parent3\endcsname{}
14733 \expandafter\def\csname Parent4\endcsname{}

14734 </outlines>

```

## 50 Compatibility with koma-script classes

14735 <\*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.

```

14736 \def\Hy@tempa{%
14737   \def\@addchap{##1}##2{%
14738     \typeout{##2}%
14739     \if@twoside
14740       \@mkboth{##1}{}%
14741     \else
14742       \@mkboth{}{##1}%
14743     \fi
14744     \addtocontents{lof}{\protect\addvspace{10\p@}}%
14745     \addtocontents{lot}{\protect\addvspace{10\p@}}%
14746     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14747     \Hy@raisedlink{%
14748       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14749     }%
14750     \if@twocolumn
14751       \@topnewpage[\@makeschapterhead{##2}]%
14752     \else
14753       \@makeschapterhead{##2}%
14754       \@afterheading
14755     \fi
14756     \addcontentsline{toc}{chapter}{##1}%
14757   }%
14758 }
14759 \@ifclassloaded{scrbook}{%
14760   \@ifclasslater{scrbook}{2001/01/01}{%
14761     \let\Hy@tempa\@empty
14762   }{}%
14763 }{%
14764   \@ifclassloaded{scrreprt}{%
14765     \@ifclasslater{scrreprt}{2001/01/01}{%
14766       \let\Hy@tempa\@empty
14767     }{}%
14768   }{}%
14769   \let\Hy@tempa\@empty
14770 }%
14771 }%
14772 \Hy@tempa
14773 </outlines | hypertex>

```

## 51 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 51.1 PD1 encoding

```

14774 <*pd1enc>
14775 \DeclareFontEncoding{PD1}{}{}

Accents
14776 \DeclareTextAccent{\'}{PD1}{\textasciigrave}

```

```

14777 \DeclareTextAccent{'}{PD1}{\textacute}
14778 \DeclareTextAccent{^}{PD1}{\textasciicircum}
14779 \DeclareTextAccent{~}{PD1}{\texttilde}
14780 \DeclareTextAccent{¨}{PD1}{\textasciidieresis}
14781 \DeclareTextAccent{r}{PD1}{\textring}
14782 \DeclareTextAccent{v}{PD1}{\textasciicaron}
14783 \DeclareTextAccent{.}{PD1}{\textdotaccent}
14784 \DeclareTextAccent{c}{PD1}{\textcedilla}
14785 \DeclareTextAccent{=}{PD1}{\textasciimacron}
14786 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
14787 \DeclareTextAccent{d}{PD1}{\textdotbelow}
14788 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
14789 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textacute}
14790 \DeclareTextCompositeCommand{^}{PD1}{\@empty}{\textasciicircum}
14791 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
14792 \DeclareTextCompositeCommand{¨}{PD1}{\@empty}{\textasciidieresis}
14793 \DeclareTextCompositeCommand{r}{PD1}{\@empty}{\textring}
14794 \DeclareTextCompositeCommand{v}{PD1}{\@empty}{\textasciicaron}
14795 \DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}
14796 \DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}
14797 \DeclareTextCompositeCommand{=}{PD1}{\@empty}{\textasciimacron}
14798 \DeclareTextCompositeCommand{b}{PD1}{\@empty}{\textmacronbelow}
14799 \DeclareTextCompositeCommand{d}{PD1}{\@empty}{\textdotbelow}
14800 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textasciigrave}
14801 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textacute}
14802 \DeclareTextCompositeCommand{^}{PD1}{\ }{\textasciicircum}
14803 \DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}
14804 \DeclareTextCompositeCommand{¨}{PD1}{\ }{\textasciidieresis}
14805 \DeclareTextCompositeCommand{r}{PD1}{\ }{\textring}
14806 \DeclareTextCompositeCommand{v}{PD1}{\ }{\textasciicaron}
14807 \DeclareTextCompositeCommand{.}{PD1}{\ }{\textdotaccent}
14808 \DeclareTextCompositeCommand{c}{PD1}{\ }{\textcedilla}
14809 \DeclareTextCompositeCommand{=}{PD1}{\ }{\textasciimacron}
14810 \DeclareTextCompositeCommand{b}{PD1}{\ }{\textmacronbelow}
14811 \DeclareTextCompositeCommand{d}{PD1}{\ }{\textdotbelow}
14812 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14813 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14814 \DeclareTextCommand{\newtie}{PD1}[1]{%
14815 \TextSymbolUnavailable{\newtie{#1}}#1%
14816 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

14817 % U+0009 (CHARACTER TABULATION)
14818 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14819 % U+000A (LINE FEED)
14820 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14821 % U+000D (CARRIAGE RETURN)
14822 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

14823 % U+02D8 BREVE; breve
14824 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14825 % U+02C7 CARON; caron
14826 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14827 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14828 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14829 % U+02D9 DOT ABOVE; dotaccent
14830 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9

```

14831 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 14832 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD  
 14833 % U+02DB OGONEK; ogonek  
 14834 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB  
 14835 % U+02DA RING ABOVE; ring  
 14836 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA  
 14837 % U+02DC SMALL TILDE; ilde, \*tilde  
 14838 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC  
 \040: U+0020 SPACE; \*space, spacehackarabic  
 \041: U+0021 EXCLAMATION MARK; exclam  
 14839 % U+0022 QUOTATION MARK; quotedbl  
 14840 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022  
 14841 % U+0023 NUMBER SIGN; numbersign  
 14842 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023  
 14843 % U+0024 DOLLAR SIGN; dollar  
 14844 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024  
 14845 % U+0025 PERCENT SIGN; percent  
 14846 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
 14847 % U+0026 AMPERSAND; ampersand  
 14848 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
 \047: U+0027 APOSTROPHE; quotesingle  
  
 14849 % U+0028 LEFT PARENTHESIS; parenleft  
 14850 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028  
 14851 % U+0029 RIGHT PARENTHESIS; parenright  
 14852 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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  
 14853 % U+002E FULL STOP; period  
 14854 \DeclareTextCommand{\textdotbelow}{PD1}{.}% \056 U+002E  
 \057: U+002F SOLIDUS; slash  
 \060: U+0030 DIGIT ZERO; zero  
 ...  
 \071: U+0039 DIGIT NINE; nine  
 \072: U+003A COLON; colon  
 \073: U+003B SEMICOLON; semicolon  
 14855 % U+003C LESS-THAN SIGN; less  
 14856 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 14857 % U+003E GREATER-THAN SIGN; greater  
 14858 \DeclareTextCommand{\textgreater}{PD1}{>}% \076 U+003E  
 \077: U+003F QUESTION MARK; question  
 \100: U+0040 COMMERCIAL AT; at  
 \101: U+0041 LATIN CAPITAL LETTER A; A  
 ...  
 \132: U+005A LATIN CAPITAL LETTER Z; Z  
 \133: U+005B LEFT SQUARE BRACKET; bracketleft  
 14859 % U+005C REVERSE SOLIDUS; backslash  
 14860 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 14861 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"  
 14862 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}

\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 14863 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 14864 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 14865 % U+005F LOW LINE; underscore  
 14866 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 14867 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 14868 % U+0060 GRAVE ACCENT; grave  
 14869 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 14870 % U+0069 LATIN SMALL LETTER I; i  
 14871 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 14872 % U+007B LEFT CURLY BRACKET; braceleft  
 14873 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 14874 % U+007C VERTICAL LINE; \*bar, verticalbar  
 14875 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 14876 % U+007D RIGHT CURLY BRACKET; braceright  
 14877 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 14878 % U+007E TILDE; asciitilde  
 14879 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 14880 % U+2022 BULLET; bullet  
 14881 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 14882 % U+2020 DAGGER; dagger  
 14883 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 14884 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
 14885 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 14886 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}  
 14887 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 14888 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 14889 % U+2014 EM DASH; emdash  
 14890 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 14891 % U+2013 EN DASH; endash  
 14892 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 14893 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 14894 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 14895 % U+2044 FRACTION SLASH; fraction  
 14896 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 14897 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 14898 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039  
 14899 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 lingright  
 14900 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A  
 14901 % U+2212 MINUS SIGN; minus  
 14902 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
 14903 % U+2030 PER MILLE SIGN; perthousand  
 14904 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
 14905 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 14906 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
 14907 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 14908 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C

14909 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
14910 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
14911 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
14912 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
14913 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
14914 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
14915 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
14916 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
14917 % U+2122 TRADE MARK SIGN; trademark  
14918 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
14919 % U+FB01 LATIN SMALL LIGATURE FI; fi  
14920 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
14921 % U+FB02 LATIN SMALL LIGATURE FL; fl  
14922 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
14923 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
14924 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
14925 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
14926 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
14927 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
14928 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
14929 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
14930 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178  
14931 \DeclareTextCommand{\IJ}{PD1}{\230}  
14932 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
14933 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
14934 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
14935 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
14936 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
14937 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
14938 % U+0153 LATIN SMALL LIGATURE OE; oe  
14939 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
14940 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
14941 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
14942 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
14943 \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.  
14944 % U+20AC EURO SIGN; \*Euro, euro  
14945 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
14946 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
14947 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
14948 % U+00A2 CENT SIGN; cent  
14949 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
14950 % U+00A3 POUND SIGN; sterling  
14951 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
14952 % U+00A4 CURRENCY SIGN; currency  
14953 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
14954 % U+00A5 YEN SIGN; yen  
14955 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
14956 % U+00A6 BROKEN BAR; brokenbar  
14957 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
14958 % U+00A7 SECTION SIGN; section  
14959 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
14960 % U+00A8 DIAERESIS; dieresis  
14961 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
14962 % U+00A9 COPYRIGHT SIGN; copyright  
14963 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9

14964 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 14965 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 14966 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 14967 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 14968 % U+00AC NOT SIGN; logicalnot  
 14969 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 14970 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
 No glyph \255 in PDFDocEncoding.  
 14971 % U+00AE REGISTERED SIGN; registered  
 14972 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 14973 % U+00AF MACRON; \*macron, overscore  
 14974 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 14975 % U+00B0 DEGREE SIGN; degree  
 14976 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 14977 % U+00B1 PLUS-MINUS SIGN; plusminus  
 14978 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 14979 % U+00B2 SUPERSCRIPT TWO; twosuperior  
 14980 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%\* U+00B2  
 14981 % U+00B3 SUPERSCRIPT THREE; threesuperior  
 14982 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%\* U+00B3  
 14983 % U+00B4 ACUTE ACCENT; acute  
 14984 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
 14985 % U+00B5 MICRO SIGN; mu, mul  
 14986 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
 14987 % U+00B6 PILCROW SIGN; paragraph  
 14988 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
 14989 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 14990 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
 14991 % U+00B8 CEDILLA; cedilla  
 14992 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
 14993 % U+00B9 SUPERSCRIPT ONE; onesuperior  
 14994 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%\* U+00B9  
 14995 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 14996 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
 14997 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
 14998 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
 14999 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 15000 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
 15001 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 15002 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
 15003 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 15004 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
 15005 % U+00BF INVERTED QUESTION MARK; questiondown  
 15006 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
 15007 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 15008 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
 15009 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
 15010 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
 15011 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
 15012 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
 15013 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
 15014 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
 15015 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
 15016 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
 15017 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring

15018 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
15019 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15020 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
15021 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15022 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
15023 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15024 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
15025 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15026 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
15027 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15028 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
15029 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15030 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
15031 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15032 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
15033 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15034 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
15035 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15036 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
15037 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15038 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
15039 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15040 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
15041 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
15042 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15043 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
15044 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15045 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
15046 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15047 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
15048 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15049 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
15050 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15051 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
15052 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15053 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
15054 % U+00D7 MULTIPLICATION SIGN; multiply  
15055 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
15056 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15057 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
15058 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15059 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
15060 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15061 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
15062 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15063 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
15064 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15065 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
15066 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15067 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
15068 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15069 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
15070 \DeclareTextCommand{\textThorn}{PD1}{\336}%\* U+00DE  
15071 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15072 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
15073 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15074 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0



15075 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15076 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
15077 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15078 \DeclareTextCompositeCommand{\~}{PD1}{a}{\342}% U+00E2  
15079 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15080 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
15081 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15082 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
15083 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15084 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
15085 % U+00E6 LATIN SMALL LETTER AE; ae  
15086 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
15087 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15088 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
15089 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15090 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
15091 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15092 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
15093 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15094 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
15095 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15096 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
15097 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15098 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
15099 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15100 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15101 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15102 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15103 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15104 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15105 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15106 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15107 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15108 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15109 % U+00F0 LATIN SMALL LETTER ETH; eth  
15110 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
15111 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15112 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
15113 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
15114 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
15115 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
15116 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
15117 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
15118 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
15119 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
15120 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
15121 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
15122 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
15123 % U+00F7 DIVISION SIGN; divide  
15124 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
15125 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
15126 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
15127 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
15128 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9  
15129 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
15130 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA  
15131 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex

```

15132 \DeclareTextCompositeCommand{\`}{PD1}{u}{\373}% U+00FB
15133 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15134 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
15135 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15136 \DeclareTextCompositeCommand{\' }{PD1}{y}{\375}% U+00FD
15137 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
15138 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
15139 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
15140 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15141 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
15142 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

15143 \DeclareTextCommand{\SS}{PD1}{SS}
15144 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

15145 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
15146 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
15147 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
15148 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
15149 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
15150 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
15151 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
15152 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

15153 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
15154 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
15155 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
15156 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
15157 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
15158 \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).

```

15159 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15160 \DeclareTextCompositeCommand{\' }{PD1}{c}{c}% cacute
15161 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15162 \DeclareTextCompositeCommand{\' }{PD1}{n}{n}% nacute
15163 \DeclareTextCompositeCommand{\' }{PD1}{s}{s}% sacute
15164 \DeclareTextCompositeCommand{\' }{PD1}{z}{z}% zacute
15165 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15166 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15167 \DeclareTextCompositeCommand{\' }{PD1}{C}{C}% Cacute
15168 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15169 \DeclareTextCompositeCommand{\' }{PD1}{N}{N}% Nacute
15170 \DeclareTextCompositeCommand{\' }{PD1}{S}{S}% Sacute
15171 \DeclareTextCompositeCommand{\' }{PD1}{Z}{Z}% Zacute
15172 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

```

15173 (/pd1enc)

```

## 51.2 PU encoding

```

15174 (*puenc)
15175 \DeclareFontEncoding{PU}{ }{ }

```

### 51.2.1 NFSS2 accents

```

15176 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb

```

```

15177 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
15178 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15179 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15180 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15181 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15182 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
15183 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15184 % U+0304 COMBINING MACRON; macroncmb
15185 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15186 % U+0306 COMBINING BREVE; brevecmb
15187 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15188 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15189 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15190 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15191 % U+0308 COMBINING DIAERESIS; dieresiscmb
15192 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15193 % U+030A COMBINING RING ABOVE; ringcmb
15194 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
15195 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
15196 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
15197 % U+030C COMBINING CARON; caroncmb
15198 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
15199 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15200 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
15201 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
15202 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15203 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
15204 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
15205 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
15206 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-
    laut (tipa)
15207 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
15208 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)
15209 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325
15210 % U+0327 COMBINING CEDILLA; cedillacmb
15211 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
15212 % U+0328 COMBINING OGONEK; ogonekcmb
15213 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
15214 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;
15215 % \textsubcircum (tipa)
15216 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
15217 % U+032E COMBINING BREVE BELOW; brevebelowcmb
15218 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E
15219 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)
15220 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330
15221 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
15222 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
15223 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
    blecmb
15224 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
15225 % U+20DD COMBINING ENCLOSING CIRCLE
15226 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

```

Double accents.

```

15227 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}
15228 \DeclareTextCommand{\textgravemacron}{PU}[1]{#1\83\000\83\004}

```

\@empty is an artefact of the NFSS2 machinery, it gets inserted for empty arguments and spaces.

```

15229 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
15230 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
15231 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
15232 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
15233 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
15234 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
15235 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
15236 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
15237 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
15238 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
15239 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
15240 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
15241 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
15242 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
15243 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\{\ \83\021\}}
15244 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\{\ \83\044\}}
15245 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}
15246 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-
low}
15247 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\{\ \83\056\}}
15248 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildelow}
15249 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
15250 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
15251 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
15252 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
15253 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
15254 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\{\ \83\001\83\004\}}
15255 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\{\ \83\000\83\004\}}

15256 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}
15257 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
15258 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
15259 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
15260 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
15261 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
15262 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
15263 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
15264 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
15265 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
15266 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
15267 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
15268 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
15269 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
15270 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\{\ \83\021\}}
15271 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\{\ \83\044\}}
15272 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}
15273 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}
15274 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\{\ \83\056\}}
15275 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildelow}
15276 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
15277 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
15278 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
15279 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
15280 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}
15281 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\{\ \83\001\83\004\}}
15282 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\{\ \83\000\83\004\}}

```

Accents for capitals (see encoding TS1)

```

15283 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}

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15284 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
15285 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
15286 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
15287 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
15288 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
15289 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
15290 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
15291 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
15292 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
15293 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
15294 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
15295 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
15296 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
15297 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

### 51.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

15298 % U+0009 (CHARACTER TABULATION)
15299 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
15300 % U+000A (LINE FEED)
15301 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
15302 % U+000D (CARRIAGE RETURN)
15303 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

15304 % U+0022 QUOTATION MARK; quotedbl
15305 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
15306 % U+0023 NUMBER SIGN; numbersign
15307 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
15308 % U+0024 DOLLAR SIGN; dollar
15309 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
15310 %* \textdollar -> \mathdollar
15311 % U+0025 PERCENT SIGN; percent
15312 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
15313 % U+0026 AMPERSAND; ampersand
15314 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
15315 %* \textampersand -> \binampersand (stmaryrd)
15316 %* \textampersand -> \with (cmll)
15317 % U+0027 APOSTROPHE; quotesingle
15318 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
15319 % U+0028 LEFT PARENTHESIS; parenleft
15320 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
15321 % U+0029 RIGHT PARENTHESIS; parenright
15322 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
15323 % U+002A ASTERISK; asterisk
15324 \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

```

$\backslash 80\backslash 073$ : U+003B SEMICOLON; semicolon  
15325 % U+003C LESS-THAN SIGN; less  
15326  $\backslash \text{DeclareTextCommand}\{\backslash \text{textless}\}\{\text{PU}\}\{<\}$ %  $\backslash 80\backslash 074$  U+003C  
 $\backslash 80\backslash 075$ : U+003D EQUALS SIGN; equal  
15327 % U+003E GREATER-THAN SIGN; greater  
15328  $\backslash \text{DeclareTextCommand}\{\backslash \text{textgreater}\}\{\text{PU}\}\{>\}$ %  $\backslash 80\backslash 076$  U+003E  
 $\backslash 80\backslash 077$ : U+003F QUESTION MARK; question  
 $\backslash 80\backslash 100$ : U+0040 COMMERCIAL AT; at  
 $\backslash 80\backslash 101$ : U+0041 LATIN CAPITAL LETTER A; A  
...  
 $\backslash 80\backslash 132$ : U+005A LATIN CAPITAL LETTER Z; Z  
 $\backslash 80\backslash 133$ : U+005B LEFT SQUARE BRACKET; bracketleft  
15329 % U+005C REVERSE SOLIDUS; backslash  
15330  $\backslash \text{DeclareTextCommand}\{\backslash \text{textbackslash}\}\{\text{PU}\}\{\backslash 80\backslash 134\}$ % U+005C  
 $\backslash 80\backslash 135$ : U+005D RIGHT SQUARE BRACKET; bracketright  
15331 % U+005E CIRCUMFLEX ACCENT; asciicircum  
15332  $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciicircum}\}\{\text{PU}\}\{\backslash 80\backslash 136\}$ % U+005E  
15333 % U+005F LOW LINE; underscore  
15334  $\backslash \text{DeclareTextCommand}\{\backslash \text{textunderscore}\}\{\text{PU}\}\{\backslash 80\backslash 137\}$ % U+005F  
15335 %\*  $\backslash \text{textunderscore} \rightarrow \backslash \text{mathunderscore}$  (LaTeX)  
15336 % U+0060 GRAVE ACCENT; grave  
15337  $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciigrave}\}\{\text{PU}\}\{\backslash 80\backslash 140\}$ % U+0060  
 $\backslash 80\backslash 141$ : U+0061 LATIN SMALL LETTER A; a  
...  
 $\backslash 80\backslash 150$ : U+0068 LATIN SMALL LETTER H; h  
15338 % U+0069 LATIN SMALL LETTER I; i  
15339  $\backslash \text{DeclareTextCompositeCommand}\{\backslash .\}\{\text{PU}\}\{\text{i}\}\{\text{i}\}$  %  $\backslash 80\backslash 151$  U+0069  
15340  $\backslash \text{DeclareTextCompositeCommand}\{\backslash .\}\{\text{PU}\}\{\text{i}\}\{\text{i}\}$ %  $\backslash 80\backslash 151$  U+0069  
 $\backslash 80\backslash 152$ : U+006A LATIN SMALL LETTER J; j  
...  
 $\backslash 80\backslash 172$ : U+007A LATIN SMALL LETTER Z; z  
15341 % U+007B LEFT CURLY BRACKET; braceleft  
15342  $\backslash \text{DeclareTextCommand}\{\backslash \text{textbraceleft}\}\{\text{PU}\}\{\backslash 80\backslash 173\}$ % U+007B  
15343 % U+007C VERTICAL LINE; \*bar, verticalbar  
15344  $\backslash \text{DeclareTextCommand}\{\backslash \text{textbar}\}\{\text{PU}\}\{\text{|}\}$ %  $\backslash 80\backslash 174$  U+007C  
15345 %\*  $\backslash \text{textbar} \rightarrow \backslash \text{textverline}$  (tipa)  
15346 % U+007D RIGHT CURLY BRACKET; braceright  
15347  $\backslash \text{DeclareTextCommand}\{\backslash \text{textbraceright}\}\{\text{PU}\}\{\backslash 80\backslash 175\}$ % U+007D  
15348 % U+007E TILDE; asciitilde  
15349  $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciitilde}\}\{\text{PU}\}\{\backslash 80\backslash 176\}$ % U+007E

### 51.2.3 Latin-1 Supplement: U+0080 to U+00FF

$\backslash 80\backslash 240$ : U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace  
15350 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
15351  $\backslash \text{DeclareTextCommand}\{\backslash \text{textexclamdown}\}\{\text{PU}\}\{\backslash 80\backslash 241\}$ % U+00A1  
15352 % U+00A2 CENT SIGN; cent  
15353  $\backslash \text{DeclareTextCommand}\{\backslash \text{textcent}\}\{\text{PU}\}\{\backslash 80\backslash 242\}$ % U+00A2  
15354 % U+00A3 POUND SIGN; sterling  
15355  $\backslash \text{DeclareTextCommand}\{\backslash \text{textsterling}\}\{\text{PU}\}\{\backslash 80\backslash 243\}$ % U+00A3  
15356 %\*  $\backslash \text{textsterling} \rightarrow \backslash \text{mathsterling}$  (LaTeX)  
15357 %\*  $\backslash \text{textsterling} \rightarrow \backslash \text{pounds}$  (LaTeX)  
15358 % U+00A4 CURRENCY SIGN; currency

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15359 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
15360 % U+00A5 YEN SIGN; yen
15361 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
15362 % U+00A6 BROKEN BAR; brokenbar
15363 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
15364 %* \textbrokenbar -> \brokenvert (wasysym)
15365 % U+00A7 SECTION SIGN; section
15366 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
15367 %* \textsection -> \mathsection (LaTeX)
15368 %* \textsection -> \S (LaTeX)
15369 % U+00A8 DIAERESIS; dieresis
15370 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
15371 % U+00A9 COPYRIGHT SIGN; copyright
15372 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%* U+00A9
15373 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
15374 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
15375 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
    motleft
15376 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
15377 % U+00AC NOT SIGN; logicalnot
15378 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
15379 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
15380 % U+00AE REGISTERED SIGN; registered
15381 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
15382 % U+00AF MACRON; *macron, overscore
15383 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
15384 % U+00B0 DEGREE SIGN; degree
15385 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
15386 % U+00B1 PLUS-MINUS SIGN; plusminus
15387 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
15388 % U+00B2 SUPERSCRIP T TWO; twosuperior
15389 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%* U+00B2
15390 % U+00B3 SUPERSCRIP T THREE; threesuperior
15391 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%* U+00B3
15392 % U+00B4 ACUTE ACCENT; acute
15393 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
15394 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
15395 % U+00B5 MICRO SIGN; mu, mu1
15396 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
15397 % U+00B6 PILCROW SIGN; paragraph
15398 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
15399 %* \textparagraph -> \mathparagraph (LaTeX)
15400 % U+00B7 MIDDLE DOT; middot, *periodcentered
15401 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
15402 % U+00B8 CEDILLA; cedilla
15403 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
15404 % U+00B9 SUPERSCRIP T ONE; onesuperior
15405 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%* U+00B9
15406 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
15407 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
15408 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
    motright
15409 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
15410 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
15411 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
15412 % U+00BD VULGAR FRACTION ONE HALF; onehalf

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15413 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
15414 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15415 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
15416 % U+00BF INVERTED QUESTION MARK; questiondown  
15417 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
15418 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15419 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
15420 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15421 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
15422 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15423 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
15424 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15425 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
15426 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15427 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
15428 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15429 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
15430 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15431 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
15432 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15433 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
15434 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15435 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
15436 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15437 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
15438 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15439 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
15440 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15441 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
15442 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15443 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
15444 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15445 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
15446 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15447 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
15448 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15449 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
15450 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15451 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
15452 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15453 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
15454 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15455 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
15456 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15457 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
15458 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15459 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
15460 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15461 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
15462 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15463 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
15464 % U+00D7 MULTIPLICATION SIGN; multiply  
15465 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
15466 %\* \textmultiply -> \vartimes (stmaryrd)  
15467 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15468 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
15469 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave



15470 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9  
15471 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15472 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
15473 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15474 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
15475 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15476 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
15477 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15478 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
15479 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15480 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
15481 \DeclareTextCommand{\textThorn}{PU}{\80\336}%\* U+00DE  
15482 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15483 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
15484 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15485 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0  
15486 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15487 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
15488 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15489 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
15490 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15491 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
15492 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15493 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
15494 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15495 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
15496 % U+00E6 LATIN SMALL LETTER AE; ae  
15497 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
15498 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15499 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
15500 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15501 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
15502 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15503 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
15504 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15505 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
15506 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15507 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
15508 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15509 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
15510 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
15511 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15512 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15513 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15514 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15515 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15516 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15517 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15518 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15519 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15520 % U+00F0 LATIN SMALL LETTER ETH; eth  
15521 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
15522 %\* \dh -> \eth (wsuipa, phonetic)  
15523 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15524 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
15525 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
15526 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2

15527 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 15528 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 15529 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 15530 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\364}% U+00F4  
 15531 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 15532 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 15533 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 15534 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
 15535 % U+00F7 DIVISION SIGN; divide  
 15536 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 15537 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 15538 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 15539 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 15540 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 15541 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 15542 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 15543 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 15544 \DeclareTextCompositeCommand{\~}{PU}{u}{\80\373}% U+00FB  
 15545 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 15546 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 15547 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 15548 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 15549 % U+00FE LATIN SMALL LETTER THORN; thorn;  
 15550 % \th, \thorn (wasysym), \textthorn (tipa)  
 15551 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 15552 \DeclareTextCommand{\textthorn}{PU}{\80\376}%\* U+00FE  
 15553 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 15554 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 51.2.4 Latin Extended-A: U+0080 to U+017F

15555 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 15556 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 15557 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 15558 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 15559 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 15560 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 15561 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 15562 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 15563 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 15564 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 15565 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 15566 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
 15567 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 15568 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
 15569 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 15570 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
 15571 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 15572 \DeclareTextCompositeCommand{\~}{PU}{C}{\81\010}% U+0108  
 15573 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
 15574 \DeclareTextCompositeCommand{\~}{PU}{c}{\81\011}% U+0109  
 15575 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-  
 cent  
 15576 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
 15577 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
 15578 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
 15579 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron

15580 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
15581 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
15582 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
15583 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
15584 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
15585 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
15586 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
15587 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
15588 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
15589 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;  
15590 % \textcrd (tipa)  
15591 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
15592 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111  
15593 %\* \textcrd -> \crossd (wsuipa)  
15594 % An alternate glyph with the stroke through the bowl:  
15595 %\* \textcrd -> \textbard (tipa)  
15596 %\* \textcrd -> \bard (wsuipa)  
15597 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
15598 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
15599 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
15600 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
15601 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
15602 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
15603 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
15604 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
15605 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
15606 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
15607 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
15608 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
15609 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
15610 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
15611 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
15612 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
15613 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
15614 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
15615 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
15616 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
15617 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
15618 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
15619 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
15620 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
15621 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
15622 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
15623 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
15624 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
15625 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-  
cent  
15626 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
15627 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
15628 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
15629 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcomma-  
maaccent  
15630 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
15631 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
15632 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
15633 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
15634 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124

15635 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
15636 \DeclareTextCompositeCommand{\~}{PU}{h}{\81\045}% U+0125  
15637 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
15638 \DeclareTextCompositeCommand{\textHslash}{PU}{\81\046}% U+0126  
15639 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)  
15640 \DeclareTextCompositeCommand{\texthbar}{PU}{\81\047}% U+0127  
15641 %\* \texthbar -> \textcrh (tipa)  
15642 %\* \texthbar -> \crossh (wsuipa)  
15643 %\* \texthbar -> \planck (phonetic)  
15644 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
15645 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
15646 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
15647 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
15648 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
15649 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
15650 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
15651 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
15652 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
15653 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
15654 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibrevé  
15655 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
15656 % U+012D LATIN SMALL LETTER I WITH BREVE; ibrevé  
15657 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
15658 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
15659 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
15660 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
15661 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
15662 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
15663 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
15664 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
15665 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
15666 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
15667 \DeclareTextCompositeCommand{\i}{PU}{\81\061}% U+0131  
15668 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
15669 \DeclareTextCompositeCommand{\IJ}{PU}{\81\062}% U+0132  
15670 % U+0133 LATIN SMALL LIGATURE IJ; ij  
15671 \DeclareTextCompositeCommand{\ij}{PU}{\81\063}% U+0133  
15672 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
15673 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
15674 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
15675 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
15676 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
15677 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
15678 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
15679 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
15680 \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`.

15681 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
15682 \DeclareTextCompositeCommand{\textkra}{PU}{\81\070}% U+0138  
15683 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
15684 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
15685 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
15686 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A

15687 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
cent

15688 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B

15689 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent

15690 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C

15691 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron

15692 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D

15693 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron

15694 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E

There seems to be no variants of letters ‘L’ and ‘l’ with a dot above (reasonable). Therefore the \. accent is reused instead of making a separate accent macro \textmiddledot.

15695 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
cent

15696 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F

15697 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent

15698 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140

15699 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash

15700 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141

15701 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash

15702 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142

15703 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute

15704 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143

15705 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute

15706 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144

15707 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
cent

15708 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145

15709 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent

15710 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146

15711 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron

15712 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147

15713 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron

15714 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148

15715 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn

15716 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149

15717 % U+014A LATIN CAPITAL LETTER ENG; Eng

15718 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A

15719 % U+014B LATIN SMALL LETTER ENG; eng

15720 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B

15721 %\* \ng -> \eng (wsuiipa)

15722 %\* \ng -> \engma (phonetic)

15723 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron

15724 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C

15725 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron

15726 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D

15727 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve

15728 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E

15729 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve

15730 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F

15731 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut

15732 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150

15733 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut

15734 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151

15735 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 15736 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
 15737 % U+0153 LATIN SMALL LIGATURE OE; oe  
 15738 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
 15739 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
 15740 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
 15741 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
 15742 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
 15743 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-  
 cent  
 15744 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
 15745 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
 15746 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
 15747 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
 15748 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
 15749 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
 15750 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
 15751 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
 15752 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
 15753 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
 15754 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
 15755 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
 15756 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
 15757 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
 15758 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
 15759 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
 15760 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
 15761 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
 15762 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
 15763 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 15764 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
 15765 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 15766 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
 15767 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-  
 cent  
 15768 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
 15769 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
 15770 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
 15771 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
 15772 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
 15773 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
 15774 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
 15775 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
 15776 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
 15777 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
 15778 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
 15779 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
 15780 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
 15781 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
 15782 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 15783 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
 15784 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
 15785 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
 15786 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
 15787 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
 15788 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
 15789 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve

15790 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
 15791 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
 15792 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
 15793 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
 15794 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
 15795 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
 15796 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
 15797 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
 15798 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
 15799 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
 15800 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
 15801 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
 15802 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
 15803 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
 15804 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
 15805 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
 15806 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
 15807 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
 15808 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 15809 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 15810 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 15811 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 15812 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
 15813 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 15814 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
 15815 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 15816 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 15817 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 15818 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 15819 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 15820 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 15821 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 15822 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 15823 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 15824 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 15825 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 15826 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

### 51.2.5 Latin Extended-B: U+0180 to U+024F

15827 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)  
 15828 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180  
 15829 %\* \textcrb -> \crossb (wsuipa)  
 15830 % An alternate glyph with the stroke through the bowl:  
 15831 %\* \textcrb -> \textbarb (tipa)  
 15832 %\* \textcrb -> \barb (wsuipa)  
 15833 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (phonetic)  
 15834 \DeclareTextCommand{\texthausaB}{PU}{\81\201}%\* U+0181  
 15835 % U+0188 LATIN SMALL LETTER C WITH HOOK; choock; \texthtc (tipa)  
 15836 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188  
 15837 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (phonetic)  
 15838 \DeclareTextCommand{\texthausaD}{PU}{\81\212}%\* U+018A  
 15839 % U+018E LATIN CAPITAL LETTER REVERSED E; Eversed  
 15840 \DeclareTextCommand{\textEversed}{PU}{\81\216}% U+018E

15841 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E  
15842 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
15843 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
15844 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)  
15845 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195  
15846 %\* \texthvlig -> \hv (wsuipa)  
15847 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (phonetic)  
15848 \DeclareTextCommand{\texthausak}{PU}{\81\230}%\* U+0198  
15849 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)  
15850 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199  
15851 %\* \texthtk -> \hausak (phonetic)  
15852 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;  
15853 % \textbarl (tipa), \barl (wsuipa)  
15854 \DeclareTextCommand{\textbarl}{PU}{\81\232}%\* U+019A  
15855 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/  
15856 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;  
15857 % \textcrlambda (tipa)  
15858 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B  
15859 %\* \textcrlambda -> \crossnilambda (wsuipa)  
15860 %\* \textcrlambda -> \barlambd (phonetic)  
15861 %\* \textcrlambda -> \lambdabar (txfonts/pxfonts)  
15862 %\* \textcrlambda -> \lambdaslash (txfonts/pxfonts)  
15863 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-long;  
15864 % \textnrleg (tipx)  
15865 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E  
15866 %\* \textPUnrleg -> \textnrleg (tipx)  
15867 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)  
15868 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5  
15869 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;  
15870 % \textlhookt (tipa)  
15871 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB  
15872 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)  
15873 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD  
15874 % U+01B9 LATIN SMALL LETTER EZH REVERSED/  
15875 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)  
15876 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9  
15877 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)  
15878 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB  
15879 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;  
15880 % glottalinvertedstroke; \textcrinvglotstop (tipa)  
15881 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE  
15882 % U+01BF LATIN LETTER WYNN; wyynn; \textwynn (tipa)  
15883 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF  
15884 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickdental;  
15885 % \textpipe (tipa)  
15886 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0  
15887 %\* \textpipe -> \textpipevar (tipx)  
15888 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER  
15889 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)  
15890 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1  
15891 %\* \textdoublepipe -> \textdoublepipevar (tipx)  
15892 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOUBLE BAR;  
15893 % clickalveolar; \textdoublebarpipe (tipa)



15894 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2  
15895 %\* \textdoublebarpipe -> \textdoublebarpipevar (tipx)  
15896 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
15897 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
15898 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
15899 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
15900 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
15901 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
15902 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
15903 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
15904 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
15905 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
15906 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
15907 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
15908 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
15909 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
15910 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
15911 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
15912 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
15913 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)  
15914 \DeclareTextCommand{\textinve}{PU}{\81\335}%\* U+01DD  
15915 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
15916 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
15917 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
15918 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
15919 %\* \textgslash -> \textcrg (tipa)  
15920 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
15921 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
15922 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
15923 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
15924 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
15925 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
15926 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
15927 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
15928 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
15929 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
15930 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
15931 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
15932 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
15933 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
15934 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
15935 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
15936 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
15937 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
15938 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
15939 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
15940 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
15941 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
15942 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
15943 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
15944 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
15945 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
15946 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
15947 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;  
15948 % \*Oslashacute, Ostrokeacut  
15949 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
15950 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;

15951 % \*oslashacute, ostrokeacute  
 15952 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
 15953 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
 15954 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
 15955 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
 15956 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
 15957 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
 15958 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
 15959 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
 15960 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
 15961 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-  
 edbreve  
 15962 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206  
 15963 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einverted-  
 breve  
 15964 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207  
 15965 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
 15966 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
 15967 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
 15968 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 15969 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 15970 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-  
 breve  
 15971 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A  
 15972 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-  
 breve  
 15973 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
 15974 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
 15975 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
 15976 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
 15977 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
 15978 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
 15979 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-  
 edbreve  
 15980 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E  
 15981 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-  
 breve  
 15982 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F  
 15983 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
 15984 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
 15985 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
 15986 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
 15987 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
 15988 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
 15989 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
 15990 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 15991 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-  
 edbreve  
 15992 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216  
 15993 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-  
 breve  
 15994 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217  
 15995 % U+021E LATIN CAPITAL LETTER H WITH CARON  
 15996 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 15997 % U+021F LATIN SMALL LETTER H WITH CARON  
 15998 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 15999 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)

16000 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221  
 16001 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)  
 16002 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225  
 16003 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 16004 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 16005 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 16006 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 16007 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 16008 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 16009 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 16010 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 16011 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 16012 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 16013 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 16014 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 16015 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 16016 \DeclareTextCompositeCommand{=} {PU}{Y}{\82\062}% U+0232  
 16017 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 16018 \DeclareTextCompositeCommand{=} {PU}{y}{\82\063}% U+0233  
 16019 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)  
 16020 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235  
 16021 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)  
 16022 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236  
 16023 % U+0237 LATIN SMALL LETTER DOTLESS J  
 16024 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237  
 16025 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)  
 16026 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238  
 16027 %\* \textPUdblig -> \textdblig (tipx)  
 16028 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)  
 16029 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239  
 16030 %\* \textPUqplig -> \textqplig (tipx)  
 16031 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)  
 16032 \DeclareTextCommand{\textslashc}{PU}{\82\074}%\* U+023C  
 16033 %\* \textslashc -> \textcentoldstyle (textcomp)  
 16034 % With bar instead of stroke:  
 16035 %\* \textslashc -> \textbarc (tipa)

### 51.2.6 IPA Extensions: U+0250 to U+02AF

16036 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)  
 16037 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+250  
 16038 %\* \textturna -> \inva (wasysym)  
 16039 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER  
 16040 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)  
 16041 \DeclareTextCommand{\textscripta}{PU}{\82\121}%\* U+251  
 16042 %\* \textscripta -> \vara (phonetic)  
 16043 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;  
 16044 % \textturnscripta (tipa)  
 16045 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+252  
 16046 %\* \textturnscripta -> \invscripta (wsuipa)  
 16047 %\* \textturnscripta -> \rotvara (phonetic)  
 16048 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)  
 16049 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+253  
 16050 %\* \texthtb -> \hookb (wsuipa)  
 16051 %\* \texthtb -> \hausab (phonetic)  
 16052 % U+0254 LATIN SMALL LETTER OPEN O; oopen;  
 16053 % \textopeno (tipa), \openo (wasysym)  
 16054 \DeclareTextCommand{\textopeno}{PU}{\82\124}%\* U+0254

16055 %\* \textopeno -> \varopeno (phonetic)  
16056 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)  
16057 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255  
16058 %\* \textctc -> \curlyc (wsuipa)  
16059 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)  
16060 \DeclareTextCommand{\textrtaild}{PU}{\82\126}% U+0256  
16061 %\* \textrtaild -> \taild (wsuipa)  
16062 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)  
16063 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257  
16064 %\* \texthtd -> \hookd (wsuipa)  
16065 %\* \texthtd -> \hausad (phonetic)  
16066 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;  
16067 % \textreve (tipa), \reve (wsuipa)  
16068 \DeclareTextCommand{\textreve}{PU}{\82\130}% U+0258  
16069 % U+0259 LATIN SMALL LETTER SCHWA; schwa;  
16070 % \textschwa (tipa), \schwa (wsuipa, phonetic)  
16071 \DeclareTextCommand{\textschwa}{PU}{\82\131}% U+0259  
16072 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;  
16073 % \textrhookschwa (tipa)  
16074 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A  
16075 %\* \textrhookschwa -> \er (wsuipa)  
16076 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-  
SILON; eopen;  
16077 % \niepsilon (wsuipa)  
16078 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}% U+025B  
16079 %\* \textniepsilon -> \epsi (phonetic)  
16080 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;  
16081 % \textrevepsilon (tipa), \revepsilon (wsuipa)  
16082 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}% U+025C  
16083 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-  
reversedhook;  
16084 % \textrhookrevepsilon (tipa)  
16085 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}% U+025D  
16086 %\* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)  
16087 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-  
versedclosed;  
16088 % \textcloserevepsilon (tipa)  
16089 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E  
16090 %\* \textcloserevepsilon -> \closedrevepsilon (wsuipa)  
16091 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-  
lessstroke;  
16092 % \textbardotlessj (tipa)  
16093 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F  
16094 %\* \textbardotlessj -> \barj (phonetic)  
16095 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)  
16096 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260  
16097 %\* \texthtg -> \hookg (wsuipa)  
16098 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;  
16099 % \textscriptg (tipa), \scriptg (wsuipa)  
16100 \DeclareTextCommand{\textscriptg}{PU}{\82\141}% U+0261  
16101 %\* \textscriptg -> \varg (phonetic)  
16102 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)  
16103 \DeclareTextCommand{\textscg}{PU}{\82\142}% U+0262  
16104 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinssmall;  
16105 % \ipagamma (wsuipa), \vod (phonetic)  
16106 \DeclareTextCommand{\textipagamma}{PU}{\82\143}% U+0263  
16107 %\* \textipagamma -> \vod (pnonetic)

16108 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;  
16109 % \babygamma (wsuipa)  
16110 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%\* U+0264  
16111 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)  
16112 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265  
16113 %\* \textturnh -> \invh (wsuipa)  
16114 %\* \textturnh -> \udesc (phonetic)  
16115 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)  
16116 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266  
16117 %\* \texthth -> \hookh (wsuipa)  
16118 %\* \texthth -> \voicedh (phonetic)  
16119 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \texththeng (tipa)  
16120 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267  
16121 %\* \texththeng -> \hookheng (wsuipa)  
16122 % U+0268 LATIN SMALL LETTER I WITH STROKE;  
16123 % \textbari (tipa), \bari (wsuipa)  
16124 \DeclareTextCommand{\textbari}{PU}{\82\150}%\* U+0268  
16125 %\* \textbari -> \ibar (phonetic)  
16126 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)  
16127 \DeclareTextCommand{\textniiota}{PU}{\82\151}%\* U+0269  
16128 %\* \textniiota -> \vari (phonetic)  
16129 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)  
16130 \DeclareTextCommand{\textsci}{PU}{\82\152}%\* U+026A  
16131 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;  
16132 % \textltilde (tipa)  
16133 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B  
16134 %\* \textltilde -> \tildel (wsuipa)  
16135 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)  
16136 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C  
16137 %\* \textbeltl -> \latfric (wsuipa)  
16138 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;  
16139 % lhookretroflex; \textrtail (tipa)  
16140 \DeclareTextCommand{\textrtail}{PU}{\82\155}% U+026D  
16141 %\* \textrtail -> \tail (wsuipa)  
16142 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)  
16143 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E  
16144 %\* \textlyoghlig -> \lz (wsuipa)  
16145 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)  
16146 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F  
16147 %\* \textturnm -> \invm (wsuipa)  
16148 %\* \textturnm -> \rotm (phonetic)  
16149 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlonglegturned;  
16150 % \textturnmrleg (tipa)  
16151 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270  
16152 %\* \textturnmrleg -> \legm (wsuipa)  
16153 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)  
16154 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271  
16155 %\* \textltailm -> \labdentalnas (wsuipa)  
16156 %\* \textltailm -> \emgma (phonetic)  
16157 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textltailn (tipa)  
16158 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272  
16159 %\* \textltailn -> \nj (wsuipa)  
16160 %\* \textltailn -> \enya (phonetic)  
16161 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;

16162 % nhookretroflex; \textrtailn (tipa)  
16163 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273  
16164 %\* \textrtailn -> \tailn (wsuipa)  
16165 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)  
16166 \DeclareTextCommand{\textscn}{PU}{\82\164}%\* U+0274  
16167 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/  
16168 % LATIN CAPITAL LETTER BARRED O; obarred;  
16169 % \textbaro (tipa), \baro (wsuipa)  
16170 \DeclareTextCommand{\textbaro}{PU}{\82\165}%\* U+0275  
16171 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscoelig (tipa)  
16172 \DeclareTextCommand{\textscoelig}{PU}{\82\166}% U+0276  
16173 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;  
16174 % \textcloseomega (tipa)  
16175 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277  
16176 %\* \textcloseomega -> \closedniomega (wsuipa)  
16177 %\* \textcloseomega -> \varomega (phonetic)  
16178 % U+0278 LATIN SMALL LETTER PHI; philatin; \nippi (wsuipa)  
16179 \DeclareTextCommand{\textnippi}{PU}{\82\170}%\* U+0278  
16180 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)  
16181 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279  
16182 %\* \textturnr -> \invr (wsuipa)  
16183 %\* \textturnr -> \rotr (phonetic)  
16184 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;  
16185 % rlonglegturned; \textturnlongleg (tipa)  
16186 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A  
16187 %\* \textturnlongleg -> \invleg (wsuipa)  
16188 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhocturned;  
16189 % \textturnrrtail (tipa)  
16190 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B  
16191 %\* \textturnrrtail -> \tailinvr (wsuipa)  
16192 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlongleg (tipa)  
16193 \DeclareTextCommand{\textlongleg}{PU}{\82\174}%\* U+027C  
16194 %\* \textlongleg -> \leg (wsuipa)  
16195 % U+027D LATIN SMALL LETTER R WITH TAIL; rhoct; \textrtailr (tipa)  
16196 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D  
16197 %\* \textrtailr -> \tailr (wsuipa)  
16198 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;  
16199 % \textfishhookr (tipa)  
16200 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E  
16201 %\* \textfishhookr -> \flapr (wsuipa)  
16202 %\* \textfishhookr -> \flap (phonetic)  
16203 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfishhookreversed;  
16204 % \textlhtlongi (tipa)  
16205 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F  
16206 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)  
16207 \DeclareTextCommand{\textscr}{PU}{\82\200}%\* U+0280  
16208 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;  
16209 % \textinvscr (tipa), \invscr (wsuipa)  
16210 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%\* U+0281  
16211 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \texttrails (tipa)  
16212 \DeclareTextCommand{\texttrails}{PU}{\82\202}% U+0282  
16213 %\* \texttrails -> \tails (wsuipa)  
16214 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)  
16215 \DeclareTextCommand{\textesh}{PU}{\82\203}%\* U+0283  
16216 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;

16217 % dotlessjstrokehook; \texthtbardotlessj (tipa)  
16218 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284  
16219 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatre-  
versed;  
16220 % \textvibyi (tipa)  
16221 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285  
16222 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)  
16223 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286  
16224 %\* \textctesh -> \curlyesh (wsuipa)  
16225 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)  
16226 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287  
16227 %\* \textturnt -> \clickt (wsuipa)  
16228 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflex-  
hook;  
16229 % \textrtailt (tipa)  
16230 \DeclareTextCommand{\textrtailt}{PU}{\82\210}% U+0288  
16231 %\* \textrtailt -> \tailt (wsuipa)  
16232 % U+0289 LATIN SMALL LETTER U BAR; ubar;  
16233 % \textbaru (tipa), \baru (wsuipa)  
16234 \DeclareTextCommand{\textbaru}{PU}{\82\211}%\* U+0289  
16235 %\* \textbaru -> \ubar (phonetic)  
16236 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)  
16237 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%\* U+028A  
16238 %\* \textniupsilon -> \rotOmega (phonetic)  
16239 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LET-  
TER SCRIPT V;  
16240 % vhook; \textscriptv (tipa), \scriptv (wsuipa)  
16241 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%\* U+028B  
16242 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)  
16243 \DeclareTextCommand{\textturnv}{PU}{\82\214}%\* U+028C  
16244 %\* \textturnv -> \invv (wsuipa)  
16245 %\* \textturnv -> \pwedge (phonetic)  
16246 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)  
16247 \DeclareTextCommand{\textturnw}{PU}{\82\215}%\* U+028D  
16248 %\* \textturnw -> \invw (wsuipa)  
16249 %\* \textturnw -> \rotw (phonetic)  
16250 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)  
16251 \DeclareTextCommand{\textturny}{PU}{\82\216}%\* U+028E  
16252 %\* \textturny -> \invy (wsuipa)  
16253 %\* \textturny -> \roty (phonetic)  
16254 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)  
16255 \DeclareTextCommand{\textscy}{PU}{\82\217}%\* U+028F  
16256 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-  
hook;  
16257 % \textrtailz (tipa)  
16258 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290  
16259 %\* \textrtailz -> \tailz (wsuipa)  
16260 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)  
16261 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291  
16262 %\* \textctz -> \curlyz (wsuipa)  
16263 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;  
16264 % \textyogh (tipa), \yogh (wsuipa)  
16265 \DeclareTextCommand{\textyogh}{PU}{\82\222}%\* U+0292  
16266 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LET-  
TER YOGH CURL;  
16267 % ezhcurl; \textctyogh (tipa)  
16268 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293

16269 %\* \textctyogh -> \curlyyogh (wsuipa)  
16270 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;  
16271 % \textglotstop (tipa), \glotstop (wsuipa)  
16272 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%\* U+0294  
16273 %\* \textglotstop -> \ejective (wsuipa)  
16274 %\* \textglotstop -> \glottal (phonetic)  
16275 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/  
16276 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;  
16277 % \textrevglotstop (tipa), \revglotstop (wsuipa)  
16278 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%\* U+0295  
16279 %\* \textrevglotstop -> \reveject (wsuipa)  
16280 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;  
16281 % \textinvglotstop (tipa), \invglotstop (wsuipa)  
16282 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%\* U+0296  
16283 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)  
16284 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297  
16285 %\* \textstretchc -> \clickc (wsuipa)  
16286 %\* \textstretchc -> \textstretchcvar (tipx)  
16287 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;  
16288 % \textbullseye (tipa)  
16289 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298  
16290 %\* \textbullseye -> \clickb (wsuipa)  
16291 %\* \textbullseye -> \textObullseye (tipx)  
16292 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)  
16293 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299  
16294 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;  
16295 % \textcloseepsilon (tipa)  
16296 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A  
16297 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;  
16298 % \texthtscg (tipa)  
16299 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B  
16300 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)  
16301 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C  
16302 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossed-tail; \textcdj (tipa)  
16303 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D  
16304 %\* \textctj -> \textctjvar (tipx)  
16305 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)  
16306 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E  
16307 %\* \textturnk -> \textturnsck (tipx)  
16308 % U+029F LATIN LETTER SMALL CAPITAL L; \textscL (tipa)  
16309 \DeclareTextCommand{\textscL}{PU}{\82\237}% U+029F  
16310 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)  
16311 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0  
16312 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-stroke;  
16313 % \textbarglotstop (tipa)  
16314 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1  
16315 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/  
16316 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokereversed;  
16317 % \textbarrevglotstop (tipa)  
16318 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2  
16319 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)  
16320 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3  
16321 %\* \textdzlig -> \dz (wsupipa)



16322 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyoghlig (tipa)  
 16323 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4  
 16324 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;  
 16325 % \textdctzlig (tipa)  
 16326 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5  
 16327 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)  
 16328 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6  
 16329 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \textteshlig (tipa)  
 16330 \DeclareTextCommand{\textteshlig}{PU}{\82\247}% U+02A7  
 16331 %\* \textteshlig -> \tesh (wsuipa)  
 16332 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;  
 16333 % \texttctclig (tipa)  
 16334 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8  
 16335 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;  
 16336 % \textlhtlongy (tipa)  
 16337 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE  
 16338 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;  
 16339 % \textvibyy (tipa)  
 16340 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

### 51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16341 % U+02BD MODIFIER LETTER REVERSED COMMA;  
 16342 % commareversedmod, afii64937; \textrevapostrophe (tipa)  
 16343 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD  
 16344 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;  
 16345 % \textraiseglotstop (tipa)  
 16346 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0  
 16347 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;  
 16348 % \textlptr (tipa)  
 16349 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2  
 16350 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;  
 16351 % \textrptr (tipa)  
 16352 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3  
 16353 % U+02C7 CARON; caron  
 16354 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 16355 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;  
 16356 % \textprimstress (tipa)  
 16357 \DeclareTextCommand{\textprimstress}{PU}{\82\308}% U+02C8  
 16358 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;  
 16359 % \textsecstress (tipa)  
 16360 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC  
 16361 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;  
 16362 % \textlengthmark (tipa)  
 16363 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0  
 16364 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangularhalfmod;  
 16365 % \texthalflength (tipa)  
 16366 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1  
 16367 % U+02D8 BREVE; breve  
 16368 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 16369 % U+02D9 DOT ABOVE; dotaccent  
 16370 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 16371 % U+02DA RING ABOVE; ring  
 16372 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 16373 % U+02DB OGONEK; ogonek  
 16374 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB

16375 % U+02DC SMALL TILDE; ilde, \*tilde  
 16376 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 16377 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 16378 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 16379 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 16380 % U+02F3 MODIFIER LETTER LOW RING  
 16381 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3  
 16382 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 16383 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 16384 % U+02F7 MODIFIER LETTER LOW TILDE  
 16385 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7  
 16386 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)  
 16387 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9  
 16388 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)  
 16389 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

### 51.2.8 Combining Diacritical Marks: U+0300 to U+036F

16390 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 16391 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 16392 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 16393 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 16394 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
 16395 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 16396 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 16397 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 16398 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoub-  
 lecmb  
 16399 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

### 51.2.9 Greek and Coptic: U+0370 to U+03FF

16400 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 16401 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 16402 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 16403 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 16404 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos  
 16405 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 16406 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 16407 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 16408 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 16409 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 16410 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 16411 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 16412 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-  
 crontonos  
 16413 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 16414 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos  
 16415 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 16416 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 16417 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
 16418 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;  
 16419 % iodadiesistonos  
 16420 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390  
 16421 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
 16422 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
 16423 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
 16424 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
 16425 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)

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16426 \DeclareTextCommand{\textGamma}{PU}{\83\223}%* U+0393
16427 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta; \Delta (La-
      TeX)
16428 \DeclareTextCommand{\textDelta}{PU}{\83\224}%* U+0394
16429 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
16430 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
16431 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
16432 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
16433 % U+0397 GREEK CAPITAL LETTER ETA; Eta
16434 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
16435 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)
16436 \DeclareTextCommand{\textTheta}{PU}{\83\230}%* U+0398
16437 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
16438 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
16439 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
16440 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
16441 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)
16442 \DeclareTextCommand{\textLambda}{PU}{\83\233}%* U+039B
16443 % U+039C GREEK CAPITAL LETTER MU; Mu
16444 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
16445 % U+039D GREEK CAPITAL LETTER NU; Nu
16446 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
16447 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)
16448 \DeclareTextCommand{\textXi}{PU}{\83\236}%* U+039E
16449 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
16450 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
16451 % U+03A0 GREEK CAPITAL LETTER PI; Pi
16452 \DeclareTextCommand{\textPi}{PU}{\83\240}%* U+03A0
16453 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
16454 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
16455 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)
16456 \DeclareTextCommand{\textSigma}{PU}{\83\243}%* U+03A3
16457 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
16458 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
16459 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)
16460 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%* U+03A5
16461 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)
16462 \DeclareTextCommand{\textPhi}{PU}{\83\246}%* U+03A6
16463 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
16464 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
16465 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)
16466 \DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8
16467 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega;
16468 % \Omega (LaTeX)
16469 \DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9
16470 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
16471 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
16472 \DeclareTextCompositeCommand{\"}{PU}{\textIota}{\83\252}% U+03AA
16473 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
      silondieresis
16474 \DeclareTextCompositeCommand{\"}{PU}{\textUpsilon}{\83\253}% U+03AB
16475 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
16476 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}%* U+03AC
16477 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
16478 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD
16479 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
16480 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE

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16481 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatonos
16482 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF
16483 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA
16484 % AND TONOS; upsilondieresisto
16485 \DeclareTextCompositeCommand{\"}{PU}{\textupsilonacute}{\83\260}% U+03B0
16486 % U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)
16487 \DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1
16488 % U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)
16489 \DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2
16490 % U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)
16491 \DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3
16492 % U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)
16493 \DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4
16494 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)
16495 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5
16496 % U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)
16497 \DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6
16498 % U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)
16499 \DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7
16500 % U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)
16501 \DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8
16502 % U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)
16503 \DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9
16504 % U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)
16505 \DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA
16506 % U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)
16507 \DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB
16508 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu; \mu (LaTeX)
16509 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC
16510 % U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)
16511 \DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD
16512 % U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)
16513 \DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE
16514 % U+03BF GREEK SMALL LETTER OMICRON; omicron
16515 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
16516 % U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)
16517 \DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0
16518 % U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)
16519 \DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1
16520 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
16521 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2
16522 % U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)
16523 \DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3
16524 % U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)
16525 \DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4
16526 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)
16527 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5
16528 % U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)
16529 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
16530 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)
16531 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
16532 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)
16533 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
16534 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)
16535 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
16536 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
16537 \DeclareTextCompositeCommand{\"}{PU}{\textiota}{\83\312}% U+03CA

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16538 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-  
 silondieresis  
 16539 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB  
 16540 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
 16541 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC  
 16542 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
 16543 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD  
 16544 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD  
 16545 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
 16546 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE  
 16547 % U+03DA GREEK LETTER STIGMA; Stigmagreek  
 16548 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA  
 16549 % U+03DB GREEK SMALL LETTER STIGMA  
 16550 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB  
 16551 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
 16552 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC  
 16553 % U+03DD GREEK SMALL LETTER DIGAMMA  
 16554 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
 16555 %\* \textdigammagreek -> \digamma (AmS)  
 16556 % U+03DE GREEK LETTER KOPPA; Koppagreek  
 16557 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE  
 16558 % U+03DF GREEK SMALL LETTER KOPPA  
 16559 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF  
 16560 % U+03E0 GREEK LETTER SAMPI; Sampigreek  
 16561 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0  
 16562 % U+03E1 GREEK SMALL LETTER SAMPI  
 16563 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1  
 16564 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;  
 16565 % \backepsilon (AmS)  
 16566 \DeclareTextCommand{\textbackepsilon}{PU}{\83\366}% U+03F6

### 51.2.10 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

16567 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE  
 16568 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400  
 16569 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, \*afii10023  
 16570 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401  
 16571 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???  
 16572 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afii10051  
 16573 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
 16574 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
 16575 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403  
 16576 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, \*afii10053  
 16577 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
 16578 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
 16579 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
 16580 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;  
 16581 % Icyrillic, \*afii10055  
 16582 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
 16583 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
 16584 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
 16585 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407  
 16586 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
 16587 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
 16588 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
 16589 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409

16590 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
 16591 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
 16592 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
 16593 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
 16594 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
 16595 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
 16596 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
 16597 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
 16598 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
 16599 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
 16600 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
 16601 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
 16602 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
 16603 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
 16604 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
 16605 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
 16606 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
 16607 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
 16608 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
 16609 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
 16610 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
 16611 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
 16612 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
 16613 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
 16614 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
 16615 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
 16616 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
 16617 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
 16618 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
 16619 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
 16620 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
 16621 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Ishortcyrillic, \*afii10027  
 16622 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
 16623 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
 16624 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
 16625 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
 16626 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
 16627 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
 16628 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
 16629 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
 16630 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
 16631 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
 16632 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
 16633 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
 16634 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
 16635 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
 16636 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
 16637 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
 16638 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
 16639 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
 16640 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
 16641 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
 16642 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
 16643 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
 16644 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
 16645 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
 16646 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039

16647 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
16648 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
16649 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
16650 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
16651 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
16652 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
16653 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
16654 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
16655 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
16656 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;  
16657 % Hardsigncyrillic, \*afii10044  
16658 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
16659 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
16660 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
16661 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;  
16662 % Softsigncyrillic, \*afii10046  
16663 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
16664 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
16665 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
16666 % U+042E CYRILLIC CAPITAL LETTER YU; IUCyrillic, \*afii10048  
16667 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
16668 % U+042F CYRILLIC CAPITAL LETTER YA; IACyrillic, \*afii10049  
16669 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
16670 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
16671 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
16672 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
16673 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
16674 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
16675 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
16676 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
16677 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
16678 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
16679 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
16680 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
16681 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
16682 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
16683 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436  
16684 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
16685 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
16686 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
16687 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
16688 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
16689 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
16690 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
16691 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
16692 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
16693 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
16694 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B  
16695 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
16696 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
16697 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
16698 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
16699 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
16700 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
16701 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
16702 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
16703 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic

16704 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
16705 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
16706 \DeclareTextCommand{\cyr s}{PU}{\84\101}% U+0441  
16707 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
16708 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
16709 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
16710 \DeclareTextCommand{\cyr u}{PU}{\84\103}% U+0443  
16711 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
16712 \DeclareTextCommand{\cyr f}{PU}{\84\104}% U+0444  
16713 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
16714 \DeclareTextCommand{\cyr h}{PU}{\84\105}% U+0445  
16715 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
16716 \DeclareTextCommand{\cyr c}{PU}{\84\106}% U+0446  
16717 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
16718 \DeclareTextCommand{\cyr ch}{PU}{\84\107}% U+0447  
16719 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
16720 \DeclareTextCommand{\cyr sh}{PU}{\84\110}% U+0448  
16721 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shhacyrillic  
16722 \DeclareTextCommand{\cyr shch}{PU}{\84\111}% U+0449  
16723 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
16724 \DeclareTextCommand{\cyr hrdsn}{PU}{\84\112}% U+044A  
16725 %\* \cyr hrdsn -> \hardsign (tipa)  
16726 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
16727 \DeclareTextCommand{\cyr ery}{PU}{\84\113}% U+044B  
16728 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
16729 \DeclareTextCommand{\cyr sftsn}{PU}{\84\114}% U+044C  
16730 %\* \cyr sftsn -> \softsign (tipa)  
16731 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
16732 \DeclareTextCommand{\cyr rerev}{PU}{\84\115}% U+044D  
16733 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
16734 \DeclareTextCommand{\cyr yu}{PU}{\84\116}% U+044E  
16735 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
16736 \DeclareTextCommand{\cyr ya}{PU}{\84\117}% U+044F  
16737 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
16738 \DeclareTextCompositeCommand{\`}{PU}{\cyr e}{\84\120}% U+0450  
16739 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
16740 \DeclareTextCommand{\cyr yo}{PU}{\84\121}% U+0451  
16741 \DeclareTextCompositeCommand{\"}{PU}{\cyr e}{\84\121}% U+0451  
16742 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
16743 \DeclareTextCommand{\cyr dje}{PU}{\84\122}% U+0452  
16744 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
16745 \DeclareTextCompositeCommand{\'}{PU}{\cyr g}{\84\123}% U+0453  
16746 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
16747 \DeclareTextCommand{\cyr ie}{PU}{\84\124}% U+0454  
16748 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
16749 \DeclareTextCommand{\cyr dze}{PU}{\84\125}% U+0455  
16750 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;  
16751 % \*afii10103, icyrillic  
16752 \DeclareTextCommand{\cyr ii}{PU}{\84\126}% U+0456  
16753 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
16754 \DeclareTextCommand{\cyr yi}{PU}{\84\127}% U+0457  
16755 \DeclareTextCompositeCommand{\"}{PU}{\cyr ii}{\84\127}% U+0457  
16756 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
16757 \DeclareTextCommand{\cyr je}{PU}{\84\130}% U+0458  
16758 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
16759 \DeclareTextCommand{\cyr lje}{PU}{\84\131}% U+0459



16760 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
 16761 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
 16762 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
 16763 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
 16764 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
 16765 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
 16766 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
 16767 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
 16768 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
 16769 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
 16770 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
 16771 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
 16772 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
 16773 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
 16774 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
 16775 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
 16776 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
 16777 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
 16778 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
 16779 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
 16780 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
 16781 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
 16782 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
 16783 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
 16784 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
 16785 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
 16786 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
 16787 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
 16788 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
 16789 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-  
 otifiedcyrillic  
 16790 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
 16791 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitlei-  
 otifiedcyrillic  
 16792 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
 16793 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbicyrillic  
 16794 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
 16795 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbicyrillic  
 16796 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
 16797 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
 cyrillic  
 16798 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
 16799 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-  
 cyrillic  
 16800 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
 16801 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
 16802 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
 16803 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
 16804 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
 16805 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
 16806 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
 16807 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
 16808 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
 16809 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
 16810 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
 16811 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
 16812 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473

16813 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
 16814 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
 16815 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
 16816 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
 16817 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE  
 16818 % GRAVE ACCENT; Izhitsadblgravecyrillic  
 16819 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
 16820 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE  
 16821 % GRAVE ACCENT; izhitsadblgravecyrillic  
 16822 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 16823 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 16824 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 16825 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 16826 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 16827 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
 16828 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 16829 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 16830 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 16831 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
 16832 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 16833 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
 16834 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 16835 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 16836 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 16837 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 16838 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 16839 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 16840 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 16841 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 16842 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 16843 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 16844 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrilliccmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrilliccmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrilliccmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 16845 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 16846 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 16847 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 16848 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 16849 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 16850 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 16851 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 16852 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 16853 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 16854 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 16855 % U+048F CYRILLIC SMALL LETTER ER WITH TICK

16856 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
16857 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-cyrillic, \*afii10050  
16858 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
16859 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
16860 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
16861 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-cyrillic  
16862 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
16863 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
16864 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
16865 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;  
16866 % Ghemiddlehookcyrillic  
16867 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
16868 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;  
16869 % ghemiddlehookcyrillic  
16870 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
16871 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;  
16872 % Zhedescendercyrillic  
16873 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
16874 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;  
16875 % zhedescendercyrillic  
16876 \DeclareTextCommand{\cyrzhsc}{PU}{\84\227}% U+0497  
16877 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
16878 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
16879 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
16880 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
16881 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
16882 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
16883 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadesendercyrillic  
16884 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
16885 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadesendercyrillic  
16886 \DeclareTextCommand{\cyrkds}{PU}{\84\233}% U+049B  
16887 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;  
16888 % Kavertikalstrokecyrillic  
16889 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
16890 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;  
16891 % kavertikalstrokecyrillic  
16892 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
16893 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
16894 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
16895 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
16896 \DeclareTextCommand{\cyrkcrs}{PU}{\84\237}% U+049F  
16897 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
16898 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
16899 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
16900 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
16901 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
16902 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
16903 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic

16904 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 16905 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 16906 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 16907 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 16908 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 16909 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
 16910 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
 16911 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
 16912 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
 16913 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
 16914 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
 16915 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
 16916 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
 16917 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
 16918 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
 16919 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
 16920 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
 16921 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
 16922 \DeclareTextCompositeCommand{\k}{PU}{\cys}{\84\253}% U+04AB  
 16923 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
 16924 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
 16925 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
 16926 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
 16927 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
 16928 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
 16929 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
 16930 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF  
 16931 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
 16932 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
 16933 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic  
 16934 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1  
 16935 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic  
 16936 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
 16937 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
 16938 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
 16939 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
 16940 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
 16941 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
 16942 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
 16943 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;  
 16944 % Chedescendercyrillic  
 16945 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
 16946 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
 16947 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
 16948 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;

16949 % Cheverticalstrokecyrillic  
16950 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
16951 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;  
16952 % cheverticalstrokecyrillic  
16953 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
16954 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
16955 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
16956 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
16957 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
16958 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-  
cyrillic  
16959 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
16960 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-  
lic  
16961 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
16962 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; Chedescenderabkhasiancyrillic  
16963 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
16964 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
16965 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; chedescenderabkhasiancyrillic  
16966 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
16967 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
16968 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
16969 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
16970 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
16971 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
16972 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
16973 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
16974 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
16975 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
16976 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
16977 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
16978 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
16979 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
16980 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
16981 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
16982 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
16983 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
16984 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
16985 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
16986 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-  
siancyrillic  
16987 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
16988 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
cyrillic  
16989 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
16990 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
16991 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
16992 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
16993 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
16994 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
16995 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
16996 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
16997 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1

16998 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic  
16999 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2  
17000 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
17001 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3  
17002 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
17003 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
17004 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
17005 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
17006 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevescyrillic  
17007 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
17008 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevescyrillic  
17009 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
17010 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
17011 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
17012 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
17013 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
17014 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;  
17015 % Schwadiesiscyrillic  
17016 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
17017 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;  
17018 % schwadiesiscyrillic  
17019 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB  
17020 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic  
17021 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC  
17022 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic  
17023 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\335}% U+04DD  
17024 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic  
17025 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE  
17026 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic  
17027 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
17028 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic  
17029 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
17030 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
17031 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
17032 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
17033 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2  
17034 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
17035 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3  
17036 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
17037 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
17038 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
17039 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
17040 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
17041 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
17042 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
17043 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
17044 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
17045 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
17046 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic

17047 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
 17048 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;  
 17049 % Obarreddieresis Cyrillic  
 17050 \DeclareTextCompositeCommand{"}{PU}{\CYROTL D}{\84\352}% U+04EA  
 17051 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;  
 17052 % obarreddieresis Cyrillic  
 17053 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
 17054 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
 17055 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
 17056 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
 17057 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
 17058 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacron Cyrillic  
 17059 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE  
 17060 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacron Cyrillic  
 17061 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF  
 17062 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresis Cyrillic  
 17063 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
 17064 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresis Cyrillic  
 17065 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 17066 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlaut Cyrillic  
 17067 \DeclareTextCompositeCommand{H}{PU}{\CYRU}{\84\362}% U+04F2  
 17068 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlaut Cyrillic  
 17069 \DeclareTextCompositeCommand{H}{PU}{\cyru}{\84\363}% U+04F3  
 17070 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresis Cyrillic  
 17071 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 17072 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresis Cyrillic  
 17073 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 17074 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 17075 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 17076 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 17077 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 17078 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresis Cyrillic  
 17079 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 17080 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresis Cyrillic  
 17081 \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  
 17082 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 17083 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 17084 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 17085 \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

### 51.2.11 Thai: U+0E00 to U+0E7F

17086 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai

17087 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

### 51.2.12 Phonetic Extensions: U+1D00 to U+1D7F

17088 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textscA (tipa)  
17089 \DeclareTextCommand{\textscA}{PU}{\9035\000}% U+1D00  
17090 % U+1D05 LATIN LETTER SMALL CAPITAL D; \textscD (wsuipa)  
17091 \DeclareTextCommand{\textscD}{PU}{\9035\005}% U+1D05  
17092 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textscE (tipa)  
17093 \DeclareTextCommand{\textscE}{PU}{\9035\007}% U+1D07  
17094 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscJ (tipa)  
17095 \DeclareTextCommand{\textscJ}{PU}{\9035\012}% U+1D0A  
17096 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textscK (tipx)  
17097 \DeclareTextCommand{\textPUscK}{PU}{\9035\013}% U+1D0B  
17098 %\* \textPUscK -> \textscK (tipx)  
17099 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscM (tipx)  
17100 \DeclareTextCommand{\textPUscM}{PU}{\9035\015}% U+1D0D  
17101 %\* \textPUscM -> \textscM (tipx)  
17102 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscP (tipx)  
17103 \DeclareTextCommand{\textPUscP}{PU}{\9035\030}% U+1D18  
17104 %\* \textPUscP -> \textscP (tipx)  
17105 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)  
17106 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19  
17107 %\* \textPUrevscr -> \textrevscr (tipx)  
17108 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscU (tipa), \scU (wsuipa)  
17109 \DeclareTextCommand{\textscU}{PU}{\9035\034}% U+1D1C  
17110 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I  
17111 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}% U+1D62  
17112 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R  
17113 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}% U+1D63  
17114 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U  
17115 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}% U+1D64  
17116 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V  
17117 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}% U+1D65  
17118 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA  
17119 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}% U+1D66  
17120 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA  
17121 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}% U+1D67  
17122 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO  
17123 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}% U+1D68  
17124 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI  
17125 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}% U+1D69  
17126 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI  
17127 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}% U+1D6A  
17128 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;  
17129 % \barsci (wsuipa)  
17130 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}% U+1D7B  
17131 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)  
17132 \DeclareTextCommand{\textbarp}{PU}{\9035\175}% U+1D7D  
17133 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;  
17134 % \barscu (wsuipa)  
17135 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}% U+1D7E

### 51.2.13 Phonetic Extensions Supplement: U+1D80 to U+1DBF

17136 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-  
trhooka (tipx)  
17137 \DeclareTextCommand{\textPURhooka}{PU}{\9035\217}% U+1D8F  
17138 %\* \textPURhooka -> \textrhooka (tipx)



17139 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtrtaild (tipa)  
 17140 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%\* U+1D91  
 17141 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \textrhooke (tipx)  
 17142 \DeclareTextCommand{\textPUrhooke}{PU}{\9035\222}% U+1D92  
 17143 %\* \textPUrhooke -> \textrhooke (tipx)  
 17144 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;  
 17145 % \textrhookepsilon (tipx)  
 17146 \DeclareTextCommand{\textPUrhookepsilon}{PU}{\9035\223}% U+1D93  
 17147 %\* \textPUrhookepsilon -> \textrhookepsilon (tipx)  
 17148 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;  
 17149 % \textrhookopeno (tipx)  
 17150 \DeclareTextCommand{\textPUrhookopeno}{PU}{\9035\227}% U+1D97  
 17151 %\* \textPUrhookopeno -> \textrhookopeno (tipx)

#### 51.2.14 Latin Extended Additional: U+1E00 to U+1EFF

17152 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow  
 17153 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00  
 17154 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow  
 17155 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01  
 17156 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 17157 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02  
 17158 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 17159 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03  
 17160 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow  
 17161 \DeclareTextCompositeCommand{d}{PU}{B}{\9036\004}% U+1E04  
 17162 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow  
 17163 \DeclareTextCompositeCommand{d}{PU}{b}{\9036\005}% U+1E05  
 17164 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 17165 \DeclareTextCompositeCommand{b}{PU}{B}{\9036\006}% U+1E06  
 17166 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 17167 \DeclareTextCompositeCommand{b}{PU}{b}{\9036\007}% U+1E07  
 17168 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 17169 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A  
 17170 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 17171 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B  
 17172 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow  
 17173 \DeclareTextCompositeCommand{d}{PU}{D}{\9036\014}% U+1E0C  
 17174 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow  
 17175 \DeclareTextCompositeCommand{d}{PU}{d}{\9036\015}% U+1E0D  
 17176 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
 17177 \DeclareTextCompositeCommand{b}{PU}{D}{\9036\016}% U+1E0E  
 17178 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
 17179 \DeclareTextCompositeCommand{b}{PU}{d}{\9036\017}% U+1E0F  
 17180 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
 17181 \DeclareTextCompositeCommand{c}{PU}{D}{\9036\020}% U+1E10  
 17182 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
 17183 \DeclareTextCompositeCommand{c}{PU}{d}{\9036\021}% U+1E11  
 17184 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-  
 cumflexbelow  
 17185 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12  
 17186 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-  
 cumflexbelow  
 17187 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13  
 17188 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;  
 17189 % Emacrongrave

17190 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14  
17191 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;  
17192 % emacrongrave  
17193 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15  
17194 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;  
17195 % Emacronacute  
17196 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16  
17197 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;  
17198 % emacronacute  
17199 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17  
17200 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-  
cumflexbelow  
17201 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18  
17202 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-  
cumflexbelow  
17203 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19  
17204 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow  
17205 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A  
17206 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow  
17207 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B  
17208 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
17209 \DeclareTextCompositeCommand{.}{PU}{F}{\9036\036}% U+1E1E  
17210 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
17211 \DeclareTextCompositeCommand{.}{PU}{f}{\9036\037}% U+1E1F  
17212 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
17213 \DeclareTextCompositeCommand{=}{PU}{G}{\9036\040}% U+1E20  
17214 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
17215 \DeclareTextCompositeCommand{=}{PU}{g}{\9036\041}% U+1E21  
17216 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
17217 \DeclareTextCompositeCommand{.}{PU}{H}{\9036\042}% U+1E22  
17218 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
17219 \DeclareTextCompositeCommand{.}{PU}{h}{\9036\043}% U+1E23  
17220 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow  
17221 \DeclareTextCompositeCommand{d}{PU}{H}{\9036\044}% U+1E24  
17222 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow  
17223 \DeclareTextCompositeCommand{d}{PU}{h}{\9036\045}% U+1E25  
17224 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
17225 \DeclareTextCompositeCommand{¨}{PU}{H}{\9036\046}% U+1E26  
17226 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
17227 \DeclareTextCompositeCommand{¨}{PU}{h}{\9036\047}% U+1E27  
17228 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
17229 \DeclareTextCompositeCommand{c}{PU}{H}{\9036\050}% U+1E28  
17230 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
17231 \DeclareTextCompositeCommand{c}{PU}{h}{\9036\051}% U+1E29  
17232 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow  
17233 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A  
17234 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow  
17235 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B  
17236 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow  
17237 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C  
17238 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow  
17239 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D  
17240 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
17241 \DeclareTextCompositeCommand{´}{PU}{K}{\9036\060}% U+1E30  
17242 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
17243 \DeclareTextCompositeCommand{´}{PU}{k}{\9036\061}% U+1E31  
17244 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow

17245 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32  
17246 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow  
17247 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33  
17248 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
17249 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
17250 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
17251 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
17252 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow  
17253 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36  
17254 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow  
17255 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37  
17256 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
17257 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
17258 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
17259 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
17260 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-  
cumflexbelow  
17261 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C  
17262 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-  
cumflexbelow  
17263 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D  
17264 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
17265 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
17266 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
17267 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
17268 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
17269 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
17270 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
17271 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
17272 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow  
17273 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42  
17274 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow  
17275 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43  
17276 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
17277 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
17278 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
17279 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
17280 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow  
17281 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46  
17282 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow  
17283 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47  
17284 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
17285 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
17286 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
17287 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
17288 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-  
cumflexbelow  
17289 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A  
17290 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-  
cumflexbelow  
17291 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B  
17292 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;  
17293 % Omacrongrave  
17294 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50  
17295 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;  
17296 % omacrongrave  
17297 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51

17298 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;  
 17299 % Omacronacute  
 17300 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52  
 17301 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;  
 17302 % omacronacute  
 17303 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53  
 17304 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
 17305 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
 17306 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
 17307 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
 17308 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
 17309 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
 17310 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
 17311 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
 17312 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
 17313 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
 17314 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
 17315 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
 17316 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow  
 17317 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A  
 17318 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow  
 17319 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B  
 17320 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
 17321 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
 17322 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
 17323 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
 17324 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
 17325 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
 17326 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
 17327 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
 17328 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow  
 17329 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62  
 17330 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow  
 17331 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63  
 17332 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent  
 17333 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A  
 17334 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent  
 17335 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B  
 17336 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow  
 17337 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C  
 17338 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow  
 17339 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D  
 17340 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
 17341 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
 17342 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
 17343 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
 17344 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-  
 cumflexbelow  
 17345 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70  
 17346 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-  
 cumflexbelow  
 17347 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71  
 17348 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-  
 sisbelow  
 17349 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72  
 17350 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-  
 sisbelow

17351 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73  
17352 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow  
17353 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74  
17354 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow  
17355 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75  
17356 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucircumflexbelow  
17357 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76  
17358 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucircumflexbelow  
17359 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77  
17360 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
17361 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
17362 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
17363 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
17364 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow  
17365 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E  
17366 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow  
17367 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F  
17368 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
17369 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
17370 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
17371 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
17372 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
17373 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\202}% U+1E82  
17374 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
17375 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\203}% U+1E83  
17376 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
17377 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
17378 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
17379 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
17380 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
17381 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
17382 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
17383 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
17384 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow  
17385 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88  
17386 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow  
17387 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89  
17388 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
17389 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
17390 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
17391 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
17392 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
17393 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
17394 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
17395 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
17396 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
17397 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
17398 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
17399 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
17400 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
17401 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
17402 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
17403 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
17404 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow  
17405 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92

17406 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow  
 17407 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93  
 17408 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
 17409 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
 17410 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
 17411 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
 17412 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
 17413 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
 17414 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
 17415 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
 17416 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
 17417 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
 17418 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
 17419 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
 17420 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-  
 taccent  
 17421 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
 17422 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow  
 17423 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
 17424 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow  
 17425 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
 17426 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow  
 17427 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
 17428 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow  
 17429 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
 17430 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
 17431 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 17432 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
 17433 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 17434 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow  
 17435 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
 17436 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow  
 17437 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
 17438 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow  
 17439 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
 17440 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow  
 17441 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
 17442 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow  
 17443 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
 17444 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow  
 17445 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
 17446 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 17447 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
 17448 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 17449 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
 17450 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow  
 17451 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4  
 17452 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow  
 17453 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 17454 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 17455 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 17456 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 17457 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

### 51.2.15 General Punctuation: U+2000 to U+206F

17458 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner  
 17459 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C

17460 % U+2013 EN DASH; endash  
17461 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
17462 % U+2014 EM DASH; emdash  
17463 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
17464 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
17465 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
17466 %\* \textbardbl -> \textdoublevertline (tipa)  
17467 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
17468 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
17469 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
17470 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
17471 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
17472 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
17473 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
17474 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
17475 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
17476 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
17477 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
17478 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
17479 % U+2020 DAGGER; dagger  
17480 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%\* U+2020  
17481 %\* \textdagger -> \dag (LaTeX)  
17482 % U+2021 DOUBLE DAGGER; daggerdbl; ddagger (LaTeX)  
17483 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
17484 %\* \textdaggerdbl -> \ddagger (LaTeX)  
17485 %\* \textdaggerdbl -> \ddag (LaTeX)  
17486 % U+2022 BULLET; bullet  
17487 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%\* U+2022  
17488 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)  
17489 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%\* U+2025  
17490 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
17491 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
17492 %\* \textellipsis -> \mathellipsis  
17493 % U+2030 PER MILLE SIGN; perthousand  
17494 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
17495 % U+2031 PER TEN THOUSAND SIGN  
17496 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
17497 % U+2032 PRIME; minute; \prime (MnSymbol)  
17498 \DeclareTextCommand{\textprime}{PU}{\9040\062}%\* U+2032  
17499 % U+2033 DOUBLE PRIME; \second (mathabx)  
17500 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%\* U+2033  
17501 % U+2034 TRIPLE PRIME; \third (mathabx)  
17502 \DeclareTextCommand{\textthird}{PU}{\9040\064}%\* U+2034  
17503 % U+2035 REVERSED PRIME; \backprime (AmS)  
17504 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%\* U+2035  
17505 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
inglleft  
17506 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
17507 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
inglright  
17508 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
17509 % U+203B REFERENCE MARK; referencemark  
17510 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
17511 % U+203D INTERROBANG  
17512 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
17513 % U+2044 FRACTION SLASH; fraction  
17514 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044

17515 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 17516 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 17517 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 17518 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 17519 % U+2052 COMMERCIAL MINUS SIGN  
 17520 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052  
 17521 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)  
 17522 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}% U+2056  
 17523 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)  
 17524 \DeclareTextCommand{\textfourth}{PU}{\9040\127}% U+2057  
 17525 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)  
 17526 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}% U+2058

### 51.2.16 Superscripts and Subscripts: U+2070 to U+209F

17527 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 17528 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
 17529 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I  
 17530 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}% U+2071  
 17531 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 17532 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
 17533 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 17534 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
 17535 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 17536 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
 17537 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 17538 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
 17539 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 17540 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
 17541 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 17542 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
 17543 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 17544 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
 17545 % U+207B SUPERSCRIPT MINUS  
 17546 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}% U+207B  
 17547 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 17548 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}% U+207C  
 17549 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 17550 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}% U+207D  
 17551 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 17552 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}% U+207E  
 17553 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 17554 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}% U+207F  
 17555 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 17556 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
 17557 % U+2081 SUBSCRIPT ONE; oneinferior  
 17558 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
 17559 % U+2082 SUBSCRIPT TWO; twoinferior  
 17560 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
 17561 % U+2083 SUBSCRIPT THREE; threeinferior  
 17562 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083  
 17563 % U+2084 SUBSCRIPT FOUR; fourinferior  
 17564 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
 17565 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 17566 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
 17567 % U+2086 SUBSCRIPT SIX; sixinferior  
 17568 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
 17569 % U+2087 SUBSCRIPT SEVEN; seveninferior



17570 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%\* U+2087  
 17571 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 17572 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%\* U+2088  
 17573 % U+2089 SUBSCRIPT NINE; nineinferior  
 17574 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%\* U+2089  
 17575 % U+208A SUBSCRIPT PLUS SIGN  
 17576 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%\* U+208A  
 17577 % U+208B SUBSCRIPT MINUS  
 17578 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%\* U+208B  
 17579 % U+208C SUBSCRIPT EQUALS SIGN  
 17580 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%\* U+208C  
 17581 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 17582 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%\* U+208D  
 17583 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 17584 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%\* U+208E  
 17585 % U+2090 LATIN SUBSCRIPT SMALL LETTER A  
 17586 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%\* U+2090  
 17587 % U+2091 LATIN SUBSCRIPT SMALL LETTER E  
 17588 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%\* U+2091  
 17589 % U+2092 LATIN SUBSCRIPT SMALL LETTER O  
 17590 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%\* U+2092  
 17591 % U+2093 LATIN SUBSCRIPT SMALL LETTER X  
 17592 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%\* U+2093  
 17593 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA  
 17594 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%\* U+2094  
 17595 % U+2095 LATIN SUBSCRIPT SMALL LETTER H  
 17596 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%\* U+2095  
 17597 % U+2096 LATIN SUBSCRIPT SMALL LETTER K  
 17598 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%\* U+2096  
 17599 % U+2097 LATIN SUBSCRIPT SMALL LETTER L  
 17600 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%\* U+2097  
 17601 % U+2098 LATIN SUBSCRIPT SMALL LETTER M  
 17602 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%\* U+2098  
 17603 % U+2099 LATIN SUBSCRIPT SMALL LETTER N  
 17604 \DeclareTextCommand{\textnninferior}{PU}{\9040\231}%\* U+2099  
 17605 % U+209A LATIN SUBSCRIPT SMALL LETTER P  
 17606 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%\* U+209A  
 17607 % U+209B LATIN SUBSCRIPT SMALL LETTER S  
 17608 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%\* U+209B  
 17609 % U+209C LATIN SUBSCRIPT SMALL LETTER T  
 17610 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%\* U+209C

### 51.2.17 Currency Symbols: U+20A0 to U+20CF

17611 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 17612 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 17613 % U+20A4 LIRA SIGN; afii08941, \*lira  
 17614 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 17615 % U+20A6 NAIRA SIGN  
 17616 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 17617 % U+20A7 PESETA SIGN; peseta  
 17618 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 17619 % U+20A9 WON SIGN; won  
 17620 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 17621 % U+20AB DONG SIGN; dong  
 17622 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 17623 % U+20AC EURO SIGN; \*Euro, euro  
 17624 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC

17625 % U+20B1 PESO SIGN  
 17626 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 17627 % U+20B2 GUARANI SIGN  
 17628 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

### 51.2.18 Letterlike Symbols: U+2100 to U+214F

17629 % U+2103 DEGREE CELSIUS; centigrade  
 17630 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 17631 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)  
 17632 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%\* U+210F  
 17633 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)  
 17634 \DeclareTextCommand{\textIm}{PU}{\9041\021}%\* U+2111  
 17635 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)  
 17636 \DeclareTextCommand{\textell}{PU}{\9041\023}%\* U+2113  
 17637 % U+2116 NUMERO SIGN; \*afii61352, numero  
 17638 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 17639 % U+2117 SOUND RECORDING COPYRIGHT  
 17640 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 17641 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);  
 17642 % weierstrass; \wp (LaTeX)  
 17643 \DeclareTextCommand{\textwp}{PU}{\9041\030}%\* U+2118  
 17644 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)  
 17645 \DeclareTextCommand{\textRe}{PU}{\9041\034}%\* U+211C  
 17646 % U+211E PRESCRIPTION TAKE; prescription  
 17647 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 17648 % U+2120 SERVICE MARK  
 17649 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 17650 % U+2122 TRADE MARK SIGN; trademark  
 17651 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 17652 % U+2126 OHM SIGN; Ohm, Omega  
 17653 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 17654 % U+2127 INVERTED OHM SIGN  
 17655 \DeclareTextCommand{\textmho}{PU}{\9041\047}%\* U+2127  
 17656 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)  
 17657 \DeclareTextCommand{\textriota}{PU}{\9041\051}%\* U+2129  
 17658 % U+212B ANGSTROM SIGN; angstrom  
 17659 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 17660 % U+212E ESTIMATED SYMBOL; estimated  
 17661 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 17662 % U+2132 TURNED CAPITAL F; \Finv (AmS)  
 17663 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%\* U+2132  
 17664 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)  
 17665 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%\* U+2135  
 17666 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)  
 17667 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%\* U+2136  
 17668 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)  
 17669 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%\* U+2137  
 17670 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)  
 17671 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%\* U+2138  
 17672 % U+213B FACSIMILE SIGN; \fax (marvosym)  
 17673 \DeclareTextCommand{\textfax}{PU}{\9041\073}%\* U+213B  
 17674 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game  
 17675 \DeclareTextCommand{\textGame}{PU}{\9041\101}%\* U+2141  
 17676 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)  
 17677 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B  
 17678 %\* \textinvamp -> \bindnasrepma (stmaryrd)

17679 %\* \textinvamp -> \parr (cml)

### 51.2.19 Number Forms: U+2150 to U+218F

17680 % U+2150 VULGAR FRACTION ONE SEVENTH  
17681 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150  
17682 % U+2151 VULGAR FRACTION ONE NINTH  
17683 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151  
17684 % U+2152 VULGAR FRACTION ONE TENTH  
17685 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152  
17686 % U+2153 VULGAR FRACTION ONE THIRD; onethird  
17687 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153  
17688 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds  
17689 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154  
17690 % U+2155 VULGAR FRACTION ONE FIFTH  
17691 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155  
17692 % U+2156 VULGAR FRACTION TWO FIFTHS  
17693 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156  
17694 % U+2157 VULGAR FRACTION THREE FIFTHS  
17695 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157  
17696 % U+2158 VULGAR FRACTION FOUR FIFTHS  
17697 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158  
17698 % U+2159 VULGAR FRACTION ONE SIXTH  
17699 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159  
17700 % U+215A VULGAR FRACTION FIVE SIXTHS  
17701 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A  
17702 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth  
17703 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B  
17704 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths  
17705 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C  
17706 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths  
17707 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D  
17708 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveeneighths  
17709 \DeclareTextCommand{\textseveeneighths}{PU}{\9041\136}% U+215E  
17710 % U+2184 LATIN SMALL LETTER REVERSED C  
17711 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184  
17712 % U+2189 VULGAR FRACTION ZERO THIRDS  
17713 \DeclareTextCommand{\textzerthirds}{PU}{\9041\211}% U+2189

### 51.2.20 Arrows: U+2190 to U+21FF

17714 % U+2190 LEFTWARDS ARROW; arrowleft  
17715 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%\* U+2190  
17716 % U+2191 UPWARDS ARROW; arrowup  
17717 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%\* U+2191  
17718 % U+2192 RIGHTWARDS ARROW; arrowright  
17719 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%\* U+2192  
17720 % U+2193 DOWNWARDS ARROW; arrowdown  
17721 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%\* U+2193  
17722 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightarrow (LaTeX)  
17723 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\224}%\* U+2194  
17724 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)  
17725 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%\* U+2195  
17726 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)  
17727 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%\* U+2196  
17728 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)  
17729 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%\* U+2197  
17730 %\* \textnearrow -> \textglobrise (tipa)  
17731 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)

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17732 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%* U+2198
17733 %* \textsearrow -> \textglobfall (tipa)
17734 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)
17735 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%* U+2199
17736 % U+219A LEFTWARDS ARROW WITH STROKE; \leftarrow (AmS)
17737 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%* U+219A
17738 % U+219B RIGHTWARDS ARROW WITH STROKE; \rightarrow (AmS)
17739 \DeclareTextCommand{\textnrightrightarrow}{PU}{\9041\233}%* U+219B
17740 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)
17741 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%* U+219E
17742 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)
17743 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%* U+219F
17744 % U+21A0 RIGHTWARDS TWO HEADED ARROW;
17745 % \twoheadrightarrow (AmS)
17746 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0
17747 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
Symbol)
17748 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
17749 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
17750 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
17751 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
17752 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
17753 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
17754 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
17755 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
17756 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
17757 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
17758 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
17759 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
17760 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
17761 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
17762 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
17763 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightarrows (AmS)
17764 \DeclareTextCommand{\textnleftrightarrows}{PU}{\9041\256}%* U+21AE
17765 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
17766 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
17767 %* \textlightning -> \Lightning (marvosym)
17768 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
17769 % \dls (mathabx)
17770 \DeclareTextCommand{\textdls}{PU}{\9041\265}%* U+21B5
17771 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
17772 % \curvearrowleft (AmS)
17773 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
17774 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
17775 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
17776 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
barbup;
17777 % \leftharpoonup (LaTeX)
17778 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
17779 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
17780 % \leftharpoondown (LaTeX)
17781 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
17782 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
17783 % \upharpoonright (AmS)
17784 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
17785 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
17786 % \upharpoonleft (AmS)

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17787 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
17788 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
      barbup
17789 % \rightharpoonup (LaTeX)
17790 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
17791 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
17792 % \rightharpoondown (LaTeX)
17793 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
17794 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
17795 % \downharpoonright (AmS)
17796 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
17797 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
17798 % \downharpoonleft (AmS)
17799 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
17800 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
17801 % arrowrightoverleft; \rightleftarrows (MnSymbol)
17802 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
17803 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
      rowupleftofdown;
17804 % \updownarrows (MnSymbol)
17805 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
17806 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleft-
      overright;
17807 % \leftrightarrows (AmS)
17808 \DeclareTextCommand{\textleftrightarrows}{PU}{\9041\306}%* U+21C6
17809 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
17810 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
17811 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
17812 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
17813 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
17814 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9
17815 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
17816 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
17817 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
17818 % \leftrightharpoons (AmS);
17819 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
17820 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
17821 % \rightleftharpoons (LaTeX, AmS)
17822 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
17823 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-
      blstroke;
17824 % \nLeftarrow (AmS)
17825 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
17826 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightarrow
      (AmS)
17827 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
17828 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightd-
      blstroke;
17829 % \nRightarrow (AmS)
17830 \DeclareTextCommand{\textnRightarrow}{PU}{\9041\317}%* U+21CF
17831 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
17832 % \Leftarrow (LaTeX)
17833 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
17834 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
17835 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
17836 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
17837 % \Rightarrow (LaTeX)

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17838 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%* U+21D2
17839 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbl down; \Downarrow (La-
TeX)
17840 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
17841 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdbl both;
17842 % \Leftrightarrow (LaTeX)
17843 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
17844 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
17845 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
17846 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
17847 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
17848 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
17849 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
17850 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
17851 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
17852 % U+21D9 SOUTH WEST DOUBLE ARROW; \Svarrow (MnSymbol)
17853 \DeclareTextCommand{\textSvarrow}{PU}{\9041\331}%* U+21D9
17854 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
17855 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
17856 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)
17857 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
17858 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
17859 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
17860 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
17861 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
17862 % U+21E0 LEFTWARDS DASHED ARROW; arrowdash left;
17863 % \dashleftarrow (AmS)
17864 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%* U+21E0
17865 %* \textdashleftarrow -> \dashedleftarrow (MnSymbol)
17866 % U+21E1 UPWARDS DASHED ARROW; arrowdash up; \dasheduparrow (Mn-
Symbol)
17867 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%* U+21E1
17868 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdash right; \dashrightar-
row (AmS)
17869 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%* U+21E2
17870 %* \textdashrightarrow -> \dashedrightarrow (MnSymbol)
17871 % U+21E3 DOWNWARDS DASHED ARROW; arrowdash down; \dasheddownar-
row (MnSymbol)
17872 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%* U+21E3
17873 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
17874 % \downuparrows (MnSymbol)
17875 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%* U+21F5

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### 51.2.21 Mathematical Operators: U+2200 to U+22FF

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17876 % U+2200 FOR ALL; forall; \forall (LaTeX)
17877 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
17878 % U+2201 COMPLEMENT; \complement (AmS)
17879 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
17880 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
17881 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
17882 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
17883 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
17884 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
17885 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
17886 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
17887 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
17888 %* \textemptyset -> \varnothing (AmS)

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17889 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)  
17890 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%\* U+2206  
17891 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)  
17892 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%\* U+2207  
17893 % U+2208 ELEMENT OF; element; \in (LaTeX)  
17894 \DeclareTextCommand{\textin}{PU}{\9042\010}%\* U+2208  
17895 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)  
17896 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%\* U+2209  
17897 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)  
17898 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%\* U+220A  
17899 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)  
17900 \DeclareTextCommand{\textni}{PU}{\9042\013}%\* U+220B  
17901 %\* \textni -> \owns (mathabx)  
17902 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)  
17903 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%\* U+220C  
17904 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)  
17905 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%\* U+220D  
17906 % U+220F N-ARY PRODUCT; \prod (LaTeX)  
17907 \DeclareTextCommand{\textprod}{PU}{\9042\017}%\* U+220F  
17908 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)  
17909 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%\* U+2210  
17910 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)  
17911 \DeclareTextCommand{\textsum}{PU}{\9042\021}%\* U+2211  
17912 % U+2212 MINUS SIGN; minus  
17913 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
17914 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)  
17915 \DeclareTextCommand{\textmp}{PU}{\9042\023}%\* U+2213  
17916 % U+2214 DOT PLUS; \dotplus (AmS)  
17917 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%\* U+2214  
17918 % U+2216 SET MINUS; \setminus (LaTeX)  
17919 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%\* U+2216  
17920 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)  
17921 \DeclareTextCommand{\textast}{PU}{\9042\027}%\* U+2217  
17922 % U+2218 RING OPERATOR; \circ (LaTeX)  
17923 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%\* U+2218  
17924 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)  
17925 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219  
17926 % U+221A SQUARE ROOT; radical  
17927 \DeclareTextCommand{\textsqrt}{PU}{\9042\032}%\* U+221A  
17928 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)  
17929 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%\* U+221D  
17930 % U+221E INFINITY; infinity; \infty (LaTeX)  
17931 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%\* U+221E  
17932 % U+2220 ANGLE; angle; \angle (LaTeX)  
17933 \DeclareTextCommand{\textangle}{PU}{\9042\040}%\* U+2220  
17934 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)  
17935 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%\* U+2221  
17936 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)  
17937 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%\* U+2222  
17938 %\* \textsphericalangle -> \varangle (wasysym)  
17939 %\* \textsphericalangle -> \Anglesign (marvosym)  
17940 % U+2223 DIVIDES; divides; \mid (LaTeX)  
17941 \DeclareTextCommand{\textmid}{PU}{\9042\043}%\* U+2223  
17942 % U+2224 DOES NOT DIVIDE; \nmid (AmS)  
17943 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%\* U+2224  
17944 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)  
17945 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%\* U+2225

17946 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)  
17947 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%\* U+2226  
17948 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)  
17949 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%\* U+2227  
17950 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)  
17951 \DeclareTextCommand{\textvee}{PU}{\9042\050}%\* U+2228  
17952 % U+2229 INTERSECTION; intersection; \cap (LaTeX)  
17953 \DeclareTextCommand{\textcap}{PU}{\9042\051}%\* U+2229  
17954 % U+222A UNION; union; \cup (LaTeX)  
17955 \DeclareTextCommand{\textcup}{PU}{\9042\052}%\* U+222A  
17956 % U+222B INTEGRAL; integral; \int (LaTeX)  
17957 \DeclareTextCommand{\textint}{PU}{\9042\053}%\* U+222B  
17958 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)  
17959 \DeclareTextCommand{\textiint}{PU}{\9042\054}%\* U+222C  
17960 % U+222D TRIPLE INTEGRAL; \iiint (AmS)  
17961 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%\* U+222D  
17962 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)  
17963 \DeclareTextCommand{\textoint}{PU}{\9042\056}%\* U+222E  
17964 % U+222F SURFACE INTEGRAL; \oiint (wasysym)  
17965 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%\* U+222F  
17966 % U+2232 CLOCKWISE CONTOUR INTEGRAL;  
17967 % \ointclockwise (txfonts/pxfonts)  
17968 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%\* U+2232  
17969 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrclockwise (tx-  
font/pxfonts)  
17970 \DeclareTextCommand{\textointctrclockwise}{PU}{\9042\063}%\* U+2233  
17971 % U+2234 THEREFORE; therefore; \therefore (AmS)  
17972 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%\* U+2234  
17973 %\* \texttherefore -> uptherefore (MnSymbol)  
17974 % U+2235 BECAUSE; because; \because (AmS)  
17975 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%\* U+2235  
17976 %\* \textbecause -> \downtherefore (MnSymbol)  
17977 % U+2236 RATIO; \vdotdot (MnSymbol)  
17978 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%\* U+2236  
17979 % U+2237 PROPORTION; \squaredots (MnSymbol)  
17980 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%\* U+2237  
17981 % U+2238 DOT MINUS; \dotminus (MnSymbol)  
17982 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%\* U+2238  
17983 %\* \textdotminus -> \textdotdiv (mathabx)  
17984 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)  
17985 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%\* U+2239  
17986 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)  
17987 \DeclareTextCommand{\textsim}{PU}{\9042\074}%\* U+223C  
17988 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)  
17989 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%\* U+223D  
17990 % U+2240 WREATH PRODUCT; \wr (LaTeX)  
17991 \DeclareTextCommand{\textwr}{PU}{\9042\100}%\* U+2240  
17992 %\* \textwr -> \wreath (MnSymbol)  
17993 % U+2241 NOT TILDE; \nsim (AmS)  
17994 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%\* U+2241  
17995 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (La-  
TeX)  
17996 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%\* U+2243  
17997 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)  
17998 \DeclareTextCommand{\textcong}{PU}{\9042\105}%\* U+2245  
17999 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;  
18000 % \ncong (AmS)



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18001 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
18002 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
18003 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
18004 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
18005 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
18006 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)
18007 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%* U+224B
18008 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
18009 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
18010 % U+224D EQUIVALENT TO; \asymp (LaTeX)
18011 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%* U+224D
18012 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)
18013 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%* U+224E
18014 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)
18015 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F
18016 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
18017 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%* U+2250
18018 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;
18019 % \doteqdot (AmS)
18020 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
18021 %* \textdoteqdot -> \Doteq (MnSymbol)
18022 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
    equalorimage;
18023 % \fallingdotseq (AmS)
18024 \DeclareTextCommand{\textfallingdotseq}{PU}{\9042\122}%* U+2252
18025 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapproxi-
    matelyequal;
18026 % \risingdotseq (AmS)
18027 \DeclareTextCommand{\textrisingdotseq}{PU}{\9042\123}%* U+2253
18028 % U+2254 COLON EQUALS; \colonequals (colonequals)
18029 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254
18030 % U+2255 EQUALS COLON; \equalscolon (colonequals)
18031 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
18032 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
18033 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
18034 % U+2257 RING EQUAL TO; \circeq (AmS)
18035 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
18036 % U+2259 ESTIMATES; \hateq (MnSymbol)
18037 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
18038 %* \texthateq -> \corresponds (mathabx)
18039 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
18040 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
18041 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)
18042 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
18043 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
18044 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
18045 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
18046 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)
18047 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
18048 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
18049 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
18050 \DeclareTextCommand{\textle}{PU}{\9042\144}%* U+2264
18051 % U+2265 GREATER-THAN OR EQUAL TO; greaterequal;
18052 % \ge (LaTeX), \geq (LaTeX)
18053 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
18054 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
18055 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)

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18056 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
18057 % U+2267 GREATER-THAN OVER EQUAL TO; greateroverequal; \geqq (AmS)
18058 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
18059 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
18060 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
18061 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18062 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18063 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18064 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
18065 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18066 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18067 % U+226C BETWEEN; \between (AmS)
18068 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18069 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18070 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18071 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18072 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18073 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18074 % \nleq (AmS)
18075 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18076 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)
18077 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18078 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)
18079 \DeclareTextCommand{\textlessim}{PU}{\9042\162}%* U+2272
18080 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18081 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18082 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
18083 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
18084 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)
18085 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
18086 % U+227A PRECEDES; precedes; \prec (LaTeX)
18087 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
18088 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
18089 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
18090 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
18091 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C
18092 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)
18093 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%* U+227D
18094 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)
18095 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%* U+227E
18096 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)
18097 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%* U+227F
18098 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)
18099 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%* U+2280
18100 % U+2281 DOES NOT SUCCEED; notsucceeds; \nsucc (AmS)
18101 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%* U+2281
18102 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)
18103 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%* U+2282
18104 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)
18105 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%* U+2283
18106 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)
18107 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284
18108 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)
18109 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
18110 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)

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18111 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%* U+2286
18112 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)
18113 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%* U+2287
18114 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)
18115 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%* U+2288
18116 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)
18117 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%* U+2289
18118 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subset-
      neq (AmS)
18119 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
18120 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supset-
      neq (AmS)
18121 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
18122 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)
18123 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
18124 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
18125 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
18126 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
18127 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
18128 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
18129 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
18130 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseteq (LaTeX)
18131 \DeclareTextCommand{\textsqsubseteq}{PU}{\9042\221}%* U+2291
18132 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)
18133 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%* U+2292
18134 % U+2293 SQUARE CAP; \sqcap (LaTeX)
18135 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18136 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18137 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18138 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18139 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18140 %* \textoplus -> \varoplus (stmaryrd)
18141 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18142 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18143 %* \textominus -> \varominus (stmaryrd)
18144 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18145 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18146 %* \textotimes -> \varotimes (stmaryrd)
18147 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18148 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18149 %* \textoslash -> \varoslash (stmaryrd)
18150 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18151 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18152 %* \textodot -> \varodot (stmaryrd)
18153 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18154 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18155 %* \textcircledcirc -> \ocirc (mathabx)
18156 %* \textcircledcirc -> \varocircle (stmaryrd)
18157 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18158 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18159 %* \textcircledast -> \varoast (stmaryrd)
18160 %* \textcircledast -> \oasterisk (mathabx)
18161 % U+229D CIRCLED DASH; \circleddash (AmS)
18162 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18163 % U+229E SQUARED PLUS; \boxplus (AmS)
18164 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18165 % U+229F SQUARED MINUS; \boxminus (AmS)

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18166 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18167 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18168 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
18169 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18170 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18171 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18172 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18173 %* \textvdash -> \rightvdash (MnSymbol)
18174 % U+22A3 LEFT TACK; \dashv (LaTeX)
18175 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18176 %* \textdashv -> \leftvdash (MnSymbol)
18177 % U+22A4 DOWN TACK (=top); \top (LaTeX)
18178 \DeclareTextCommand{\texttop}{PU}{\9042\244}%* U+22A4
18179 %* \texttop -> \downvdash (MnSymbol)
18180 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18181 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18182 % U+22A8 TRUE; \vDash (AmS)
18183 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18184 %* \textvDash -> \models (LaTeX)
18185 %* \textvDash -> \rightmodels (MnSymbol)
18186 % U+22A9 FORCES; \Vdash (AmS)
18187 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18188 %* \textVdash -> \rightVdash (MnSymbol)
18189 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18190 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18191 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18192 % \VDash (mathabx)
18193 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18194 %* \textVDash -> \rightModels (MnSymbol)
18195 % U+22AC DOES NOT PROVE; \nvdash (AmS)
18196 \DeclareTextCommand{\textnvdash}{PU}{\9042\254}%* U+22AC
18197 % U+22AD NOT TRUE; \nvDash (AmS)
18198 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%* U+22AD
18199 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
18200 % STILE; \nVDash (AmS)
18200 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18201 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18202 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18203 %* \textlhd -> \lessclosed (MnSymbol)
18204 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18205 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18206 %* \textrhd -> \gtrclosed (MnSymbol)
18207 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18208 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18209 %* \textunlhd -> \leqclosed (MnSymbol)
18210 %* \textunlhd -> \trianglelefteq (MnSymbol)
18211 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
18212 % texsym, ...)
18212 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18213 %* \textunrhd -> \geqclosed (MnSymbol)
18214 %* \textunrhd -> \trianglerighteq (MnSymbol)
18215 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18216 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18217 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18218 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18219 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18220 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8

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18221 % U+22BB XOR; \veebar (AmS)  
 18222 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%\* U+22BB  
 18223 % U+22BC NAND; \barwedge (mathabx)  
 18224 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%\* U+22BC  
 18225 % U+22C6 STAR OPERATOR; \star (LaTeX)  
 18226 \DeclareTextCommand{\textstar}{PU}{\9042\306}%\* U+22C6  
 18227 % U+22C7 DIVISION TIMES; \divideontimes (AmS)  
 18228 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%\* U+22C7  
 18229 % U+22C8 BOWTIE; \bowtie (LaTeX)  
 18230 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%\* U+22C8  
 18231 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)  
 18232 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%\* U+22C9  
 18233 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;  
 18234 % \rtimes (AmS)  
 18235 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%\* U+22CA  
 18236 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)  
 18237 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%\* U+22CB  
 18238 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)  
 18239 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%\* U+22CC  
 18240 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)  
 18241 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%\* U+22CD  
 18242 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)  
 18243 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%\* U+22CE  
 18244 %\* \textcurlyvee -> \varcurlyvee (stmaryrd)  
 18245 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)  
 18246 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%\* U+22CF  
 18247 %\* \textcurlywedge -> \varcurlywedge (stmaryrd)  
 18248 % U+22D0 DOUBLE SUBSET; \Subset (AmS)  
 18249 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%\* U+22D0  
 18250 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)  
 18251 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%\* U+22D1  
 18252 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)  
 18253 \DeclareTextCommand{\textCap}{PU}{\9042\322}%\* U+22D2  
 18254 %\* \textCap -> \doublecap (mathabx)  
 18255 % U+22D3 DOUBLE UNION; \Cup (AmS)  
 18256 \DeclareTextCommand{\textCup}{PU}{\9042\323}%\* U+22D3  
 18257 %\* \textCup -> \doublecup (mathabx)  
 18258 % U+22D4 PITCHFORK; \pitchfork (mathabx)  
 18259 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%\* U+22D4  
 18260 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)  
 18261 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%\* U+22D6  
 18262 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)  
 18263 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%\* U+22D7  
 18264 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)  
 18265 \DeclareTextCommand{\textlll}{PU}{\9042\330}%\* U+22D8  
 18266 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)  
 18267 \DeclareTextCommand{\textggg}{PU}{\9042\331}%\* U+22D9  
 18268 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lesseqqualorgreater;  
 18269 % \lesseqgtr (AmS)  
 18270 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%\* U+22DA  
 18271 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterequalorless;  
 18272 % \gtreqless (AmS)  
 18273 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%\* U+22DB  
 18274 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)  
 18275 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%\* U+22DE  
 18276 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)  
 18277 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%\* U+22DF

18278 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)  
 18279 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%\* U+22E0  
 18280 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)  
 18281 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%\* U+22E1  
 18282 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-  
 fonts/pxfonts)  
 18283 \DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%\* U+22E2  
 18284 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-  
 fonts/pxfonts)  
 18285 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%\* U+22E3  
 18286 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)  
 18287 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%\* U+22E4  
 18288 %\* \textsqsubsetneq -> \varsqsubsetneq (mathabx)  
 18289 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-  
 abx)  
 18290 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%\* U+22E5  
 18291 %\* \textsqsupsetneq -> \varsqsupsetneq (mathabx)  
 18292 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)  
 18293 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%\* U+22E6  
 18294 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)  
 18295 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%\* U+22E7  
 18296 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precsim (AmS)  
 18297 \DeclareTextCommand{\textprecsim}{PU}{\9042\350}%\* U+22E8  
 18298 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succsim (AmS)  
 18299 \DeclareTextCommand{\textsuccsim}{PU}{\9042\351}%\* U+22E9  
 18300 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)  
 18301 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%\* U+22EA  
 18302 %\* \textntriangleleft -> \nlessclosed (MnSymbol)  
 18303 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriangleright (AmS)  
 18304 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%\* U+22EB  
 18305 %\* \textntriangleright -> \ngtrclosed (MnSymbol)  
 18306 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;  
 18307 % \ntrianglelefteq (AmS)  
 18308 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%\* U+22EC  
 18309 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;  
 18310 % \ntrianglerighteq (AmS)  
 18311 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%\* U+22ED  
 18312 %\* \textntrianglerighteq -> \textngeqclosed  
 18313 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)  
 18314 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%\* U+22EE  
 18315 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)  
 18316 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%\* U+22EF  
 18317 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)  
 18318 \DeclareTextCommand{\textudots}{PU}{\9042\360}%\* U+22F0  
 18319 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)  
 18320 \DeclareTextCommand{\textddots}{PU}{\9042\361}%\* U+22F1  
 18321 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)  
 18322 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%\* U+22F6

### 51.2.22 Miscellaneous Technical: U+2300 to U+23FF

18323 % U+2300 DIAMETER SIGN; \diameter (mathabx)  
 18324 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%\* U+2300  
 18325 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)  
 18326 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%\* U+2310  
 18327 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)  
 18328 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%\* U+2319

18329 % U+231A WATCH; \clock (wasysym)  
 18330 \DeclareTextCommand{\textclock}{PU}{\9043\032}%\* U+231A  
 18331 %\* \textclock -> \Clocklogo (marvosym)  
 18332 % U+231C TOP LEFT CORNER; \ulcorner (AmS)  
 18333 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%\* U+231C  
 18334 % U+231D TOP RIGHT CORNER; \urcorner (AmS)  
 18335 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%\* U+231D  
 18336 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)  
 18337 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%\* U+231E  
 18338 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)  
 18339 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%\* U+231F  
 18340 % U+2322 FROWN; \frown (LaTeX)  
 18341 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%\* U+2322  
 18342 % U+2323 SMILE; \smile (LaTeX)  
 18343 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%\* U+2323  
 18344 % U+2328 KEYBOARD; \Keyboard (marvosym)  
 18345 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%\* U+2328  
 18346 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \langle (LaTeX)  
 18347 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%\* U+2329  
 18348 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)  
 18349 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%\* U+232A  
 18350 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)  
 18351 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%\* U+2339  
 18352 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)  
 18353 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%\* U+233F  
 18354 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;  
 18355 % \notbackslash (wasysym)  
 18356 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%\* U+2340  
 18357 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxback-  
 slash (mathabx)  
 18358 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%\* U+2342  
 18359 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;  
 18360 % \APLleftarrowbox (wasysym)  
 18361 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%\* U+2347  
 18362 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;  
 18363 % \APLrightarrowbox (wasysym)  
 18364 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%\* U+2348  
 18365 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLu-  
 parrowbox (wasysym)  
 18366 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%\* U+2350  
 18367 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;  
 18368 % \APLdownarrowbox (wasysym)  
 18369 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%\* U+2357  
 18370 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;  
 18371 % \APLinput (wasysym)  
 18372 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%\* U+235E  
 18373 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)  
 18374 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%\* U+2370

### 51.2.23 Control Pictures: U+2400 to U+243F

18375 % U+2422 BLANK SYMBOL  
 18376 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 18377 % U+2423 OPEN BOX; blank  
 18378 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

### 51.2.24 Optical Character Recognition: U+2440 to U+245F

18379 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)

18380 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%\* U+244A  
 18381 %\* \textbbslash -> \varparallelinv (txfonts/pxfonts)

### 51.2.25 Enclosed Alphanumerics: U+2460 to U+24FF

18382 % U+2460 CIRCLED DIGIT ONE; onecircle  
 18383 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 18384 % U+2461 CIRCLED DIGIT TWO; twocircle  
 18385 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 18386 % U+2462 CIRCLED DIGIT THREE; threecircle  
 18387 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
 18388 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
 18389 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
 18390 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
 18391 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
 18392 % U+2465 CIRCLED DIGIT SIX; sixcircle  
 18393 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
 18394 % U+2466 CIRCLED DIGIT SEVEN; sevenscircle  
 18395 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
 18396 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
 18397 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
 18398 % U+2468 CIRCLED DIGIT NINE; ninecircle  
 18399 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
 18400 % U+2469 CIRCLED NUMBER TEN; tencircle  
 18401 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
 18402 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
 18403 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
 18404 % U+246B CIRCLED NUMBER TWELVE; twelvencircle  
 18405 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
 18406 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
 18407 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
 18408 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
 18409 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
 18410 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
 18411 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
 18412 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
 18413 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
 18414 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
 18415 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
 18416 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
 18417 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
 18418 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
 18419 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
 18420 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
 18421 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
 18422 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
 18423 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
 18424 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
 18425 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
 18426 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
 18427 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
 18428 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
 18429 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
 18430 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
 18431 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
 18432 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
 18433 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
 18434 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle



18435 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
18436 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
18437 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
18438 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
18439 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
18440 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
18441 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
18442 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
18443 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
18444 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
18445 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
18446 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
18447 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
18448 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
18449 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
18450 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
18451 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
18452 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
18453 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
18454 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
18455 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
18456 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
18457 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
18458 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
18459 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
18460 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
18461 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
18462 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
18463 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
18464 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
18465 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
18466 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
18467 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
18468 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
18469 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
18470 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
18471 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
18472 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
18473 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
18474 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
18475 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
18476 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
18477 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
18478 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
18479 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
18480 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
18481 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
18482 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
18483 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
18484 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
18485 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
18486 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
18487 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
18488 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
18489 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
18490 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
18491 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8

18492 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 18493 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 18494 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 18495 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 18496 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 18497 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 18498 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 18499 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 18500 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 18501 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 18502 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 18503 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 18504 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 18505 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 18506 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 18507 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 18508 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 18509 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 18510 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 18511 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 18512 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 18513 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 18514 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 18515 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 18516 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 18517 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 18518 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 18519 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 18520 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 18521 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 18522 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 18523 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 18524 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 18525 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 18526 % U+24EA CIRCLED DIGIT ZERO  
 18527 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

### 51.2.26 Geometric Shapes: U+25A0 to U+25FF

18528 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;  
 18529 % \bigtriangleup (LaTeX)  
 18530 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%\* U+25B3  
 18531 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-  
 18532 % tion); whiterightpointingtriangle; \triangleright (LaTeX)  
 18533 \DeclareTextCommand{\texttrangleright}{PU}{\9045\267}%\* U+25B7  
 18534 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-  
 18535 % angle; \bigtriangledown (LaTeX)  
 18536 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%\* U+25BD  
 18537 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-  
 18538 % striction); whiteleftpointingtriangle; \triangleleft (LaTeX)  
 18539 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%\* U+25C1  
 18540 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)  
 18541 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%\* U+25C7  
 18542 % U+25CA LOZENGE; lozenge; \lozenge (AmS)  
 18543 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%\* U+25CA

18544 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
18545 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%\* U+25E6  
18546 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;  
18547 % \boxbar (stmaryrd)  
18548 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%\* U+25EB  
18549 % U+25EF LARGE CIRCLE; largecircle  
18550 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%\* U+25EF  
18551 %

### 51.2.27 Miscellaneous Symbols: U+2600 to U+26FF

18552 % U+2601 CLOUD; \Cloud (ifsym)  
18553 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%\* U+2601  
18554 % U+2605 BLACK STAR; \FiveStar (bbding)  
18555 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%\* U+2605  
18556 % U+2606 WHITE STAR; \FiveStarOpen (bbding)  
18557 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%\* U+2606  
18558 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)  
18559 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%\* U+260E  
18560 %\* \textPhone -> \Telefon (marvosym)  
18561 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)  
18562 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%\* U+2611  
18563 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)  
18564 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%\* U+2612  
18565 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)  
18566 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%\* U+2615  
18567 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)  
18568 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%\* U+261A  
18569 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)  
18570 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%\* U+261B  
18571 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)  
18572 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%\* U+261C  
18573 %\* \textHandLeft -> \rightpointleft (fourier)  
18574 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)  
18575 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%\* U+261E  
18576 %\* \textHandRight -> \leftpointright (fourier)  
18577 %\* \textHandRight -> \PointingHand (marvosym)  
18578 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)  
18579 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%\* U+2622  
18580 %\* \textRadioactivity -> \Radiation (ifsym)  
18581 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)  
18582 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%\* U+2623  
18583 % U+2625 ANKH; \Ankh (marvosym)  
18584 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%\* U+2625  
18585 % U+262F YIN YANG; \Yinyang (marvosym)  
18586 \DeclareTextCommand{\textYinyang}{PU}{\9046\057}%\* U+262F  
18587 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)  
18588 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%\* U+2639  
18589 %\* \textfrownie -> \Frowny (marvosym)  
18590 % U+263A WHITE SMILING FACE; \smiley (wasysym)  
18591 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%\* U+263A  
18592 %\* \textsmiley -> \Smiley (marvosym)  
18593 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)  
18594 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%\* U+263B  
18595 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)  
18596 \DeclareTextCommand{\textsun}{PU}{\9046\074}%\* U+263C  
18597 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)  
18598 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%\* U+263D

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18599 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)
18600 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%* U+263E
18601 % U+263F MERCURY; \mercury (wasysym)
18602 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%* U+263F
18603 %* \textmercury -> \Mercury (marvosym)
18604 % U+2640 FEMALE SIGN; female; \female (wasysym)
18605 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640
18606 %* \textPUfemale -> \textfemale (tipx)
18607 %* \textPUfemale -> \female (wasysym)
18608 %* \textPUfemale -> \venus (wasysym)
18609 %* \textPUfemale -> \Venus (marvosym)
18610 % U+2641 EARTH; \earth (wasysym)
18611 \DeclareTextCommand{\textearth}{PU}{\9046\101}%* U+2641
18612 %* \textearth -> \Earth (marvosym)
18613 % U+2642 MALE SIGN; male, mars; \male (wasysym)
18614 \DeclareTextCommand{\textmale}{PU}{\9046\102}%* U+2642
18615 %* \textmale -> \mars (wasysym)
18616 %* \textmale -> \Mars (marvosym)
18617 % U+2643 JUPITER; \jupiter (wasysym)
18618 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%* U+2643
18619 %* \textjupiter -> \Jupiter (marvosym)
18620 % U+2644 SATURN; \saturn (wasysym)
18621 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%* U+2644
18622 %* \textsaturn -> \Saturn (marvosym)
18623 % U+2645 URANUS; \uranus (wasysym)
18624 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%* U+2645
18625 %* \texturanus -> \Uranus (marvosym)
18626 % U+2646 NEPTUNE; \neptune (wasysym)
18627 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%* U+2646
18628 %* \textneptune -> \Neptune (marvosym)
18629 % U+2647 PLUTO; \pluto (wasysym)
18630 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%* U+2647
18631 %* \textpluto -> \Pluto (marvosym)
18632 % U+2648 ARIES; \aries (wasysym)
18633 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
18634 %* \textaries -> \Aries (marvosym)
18635 % U+2649 TAURUS; \taurus (wasysym)
18636 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
18637 %* \texttaurus -> \Taurus (marvosym)
18638 % U+264A GEMINI; \gemini (wasysym)
18639 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
18640 %* \textgemini -> \Gemini (marvosym)
18641 % U+264B CANCER; \cancer (wasysym)
18642 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
18643 %* \textcancer -> \Cancer (marvosym)
18644 % U+264C LEO; \leo (wasysym)
18645 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
18646 %* \textleo -> \Leo (marvosym)
18647 % U+264D VIRGO; \virgo (wasysym)
18648 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
18649 %* \textvirgo -> \Virgo (marvosym)
18650 % U+264E LIBRA; \libra (wasysym)
18651 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
18652 %* \textlibra -> \Libra (marvosym)
18653 % U+264F SCORPIO; \scorpio (wasysym)
18654 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
18655 %* \textscorpio -> \Scorpio (marvosym)

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18656 % U+2650 SAGITTARIUS; \sagittarius (wasysym)  
18657 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%\* U+2650  
18658 %\* \textsagittarius -> \Sagittarius (marvosym)  
18659 % U+2651 CAPRICORN; \capricorn (wasysym)  
18660 \DeclareTextCommand{\textcapricorn}{PU}{\9046\121}%\* U+2651  
18661 %\* \textcapricorn -> \Capricorn (marvosym)  
18662 % U+2652 AQUARIUS; \aquarius (wasysym)  
18663 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%\* U+2652  
18664 %\* \textaquarius -> \Aquarius (marvosym)  
18665 % U+2653 PISCES; \pisces (wasysym)  
18666 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%\* U+2653  
18667 %\* \textpisces -> \Pisces (marvosym)  
18668 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)  
18669 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660  
18670 %\* \textspadesuitblack -> \spadesuit (MnSymbol)  
18671 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)  
18672 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661  
18673 %\* \textheartsuitwhite -> \heartsuit (MnSymbol)  
18674 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)  
18675 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662  
18676 %\* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)  
18677 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)  
18678 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663  
18679 %\* \textclubsuitblack -> \clubsuit (MnSymbol)  
18680 % U+2664 WHITE SPADE SUIT; spadesuitwhite  
18681 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664  
18682 % U+2665 BLACK HEART SUIT; heartsuitblack, heart  
18683 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665  
18684 % U+2666 BLACK DIAMOND SUIT; diamond  
18685 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666  
18686 % U+2667 WHITE CLUB SUIT; clubsuitwhite  
18687 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667  
18688 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)  
18689 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%\* U+2669  
18690 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)  
18691 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
18692 %\* \textmusicalnote -> \eighthnote (wasysym, arev)  
18693 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)  
18694 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%\* U+266B  
18695 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-  
note (arev)  
18696 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%\* U+266C  
18697 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)  
18698 \DeclareTextCommand{\textflat}{PU}{\9046\155}%\* U+266D  
18699 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)  
18700 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%\* U+266E  
18701 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)  
18702 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%\* U+266F  
18703 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)  
18704 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%\* U+2672  
18705 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)  
18706 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%\* U+267F  
18707 % U+2691 BLACK FLAG; \Flag (ifsym)  
18708 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%\* U+2691  
18709 %\* \textFlag -> \VarFlag (ifsym)  
18710 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)  
18711 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%\* U+2694

18712 %\* \textdsmilitary -> \textxswup (fourier)  
 18713 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)  
 18714 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%\* U+2695  
 18715 % U+2696 SCALES; \dsjuridical (dictsym)  
 18716 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%\* U+2696  
 18717 % U+2697 ALEMBIC; \dschemical (dictsym)  
 18718 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%\* U+2697  
 18719 % U+2698 FLOWER; \dsbiological (dictsym)  
 18720 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%\* U+2698  
 18721 % U+269A STAFF OF HERMES; \dscommercial (dictsym)  
 18722 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%\* U+269A  
 18723 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)  
 18724 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%\* U+269D  
 18725 % U+26A0 WARNING SIGN; \danger (fourier)  
 18726 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%\* U+26A0  
 18727 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)  
 18728 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%\* U+26A2  
 18729 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)  
 18730 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%\* U+26A3  
 18731 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (marvosym)  
 18732 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%\* U+26A4  
 18733 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)  
 18734 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%\* U+26A5  
 18735 % U+26AD MARRIAGE SYMBOL  
 18736 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 18737 % U+26AE DIVORCE SYMBOL  
 18738 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE  
 18739 % U+26B2 NEUTER; \textuncrfemale (tipx)  
 18740 \DeclareTextCommand{\textPUuncrfemale}{PU}{\9046\262}% U+26B2  
 18741 %\* \textPUuncrfemale -> \textuncrfemale (tipx)  
 18742 % U+26BD SOCCER BALL; \Football (marvosym)  
 18743 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD  
 18744 %\* \textSoccerBall -> \Football (marvosym)  
 18745 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)  
 18746 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%\* U+26C5  
 18747 % U+26C6 RAIN; \Rain (ifsym)  
 18748 \DeclareTextCommand{\textRain}{PU}{\9046\306}%\* U+26C6  
 18749 % U+26D4 NO ENTRY; \noway (fourier)  
 18750 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%\* U+26D4  
 18751 % U+26F0 MOUNTAIN; \Mountain (ifsym)  
 18752 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%\* U+26F0  
 18753 % U+26FA TENT; \Tent (ifsym)  
 18754 \DeclareTextCommand{\textTent}{PU}{\9046\372}%\* U+26FA

### 51.2.28 Dingbats: U+2700 to U+27BF

18755 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bbling)  
 18756 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701  
 18757 %\* \textScissorRightBrokenBottom -> \Cutright (marvosym)  
 18758 % U+2702 BLACK SCISSORS; \ScissorRight (bbling)  
 18759 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%\* U+2702  
 18760 %\* \textScissorRight -> \Rightsscissors (marvosym)  
 18761 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bbling)  
 18762 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%\* U+2703  
 18763 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bbling)  
 18764 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%\* U+2704  
 18765 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bbling)

18766 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%\* U+2706  
18767 % U+2707 TAPE DRIVE; \Tape (bding)  
18768 \DeclareTextCommand{\textTape}{PU}{\9047\007}%\* U+2707  
18769 % U+2708 AIRPLANE; \Plane (bding)  
18770 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%\* U+2708  
18771 % U+2709 ENVELOPE; \Envelope (bding),  
18772 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%\* U+2709  
18773 %\* \textEnvelope -> \Letter (marvosym)  
18774 % U+270C VICTORY HAND; \Peace (bding)  
18775 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%\* U+270C  
18776 % U+270D WRITING HAND; \Writinghand (marvosym)  
18777 \DeclareTextCommand{\textWritinghand}{PU}{\9047\015}%\* U+270D  
18778 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)  
18779 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%\* U+270E  
18780 % U+270F PENCIL; \PencilRight (bding)  
18781 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%\* U+270F  
18782 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)  
18783 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%\* U+2710  
18784 % U+2711 WHITE NIB; \NibRight (bding)  
18785 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%\* U+2711  
18786 % U+2712 BLACK NIB; \NibSolidRight (bding)  
18787 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%\* U+2712  
18788 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)  
18789 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%\* U+2713  
18790 %\* \textCheckmark -> \checkmark (MnSymbol)  
18791 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)  
18792 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%\* U+2714  
18793 % U+2715 MULTIPLICATION X; \XSolid (bding)  
18794 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%\* U+2715  
18795 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)  
18796 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%\* U+2716  
18797 % U+2717 BALLOT X; \XSolidBrush (bding)  
18798 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%\* U+2717  
18799 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)  
18800 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%\* U+2719  
18801 % U+271A HEAVY GREEK CROSS; \Plus (bding)  
18802 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%\* U+271A  
18803 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)  
18804 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%\* U+271B  
18805 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)  
18806 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%\* U+271C  
18807 % U+271D LATIN CROSS; \Cross (bding)  
18808 \DeclareTextCommand{\textCross}{PU}{\9047\035}%\* U+271D  
18809 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)  
18810 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%\* U+271E  
18811 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)  
18812 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%\* U+271F  
18813 % U+2720 MALTESE CROSS; \CrossMaltese (bding)  
18814 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%\* U+2720  
18815 % U+2721 STAR OF DAVID; \DavidStar (bding)  
18816 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%\* U+2721  
18817 %\* \textDavidStar -> \davidstar (wasysym)  
18818 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)  
18819 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%\* U+2722  
18820 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)  
18821 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%\* U+2723

18822 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (b-bding)

18823 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%\* U+2724

18824 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (b-bding)

18825 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%\* U+2725

18826 % U+2726 BLACK FOUR POINTED STAR; \FourStar (b-bding)

18827 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%\* U+2726

18828 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (b-bding)

18829 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%\* U+2727

18830 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (b-bding)

18831 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%\* U+272A

18832 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (b-bding)

18833 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%\* U+272B

18834 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (b-bding)

18835 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%\* U+272C

18836 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (b-bding)

18837 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%\* U+272D

18838 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (b-bding)

18839 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%\* U+272E

18840 % U+272F PINWHEEL STAR; \FiveStarConvex (b-bding)

18841 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%\* U+272F

18842 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (b-bding)

18843 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%\* U+2730

18844 % U+2731 HEAVY ASTERISK; \AsteriskBold (b-bding)

18845 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%\* U+2731

18846 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (b-bding)

18847 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%\* U+2732

18848 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (b-bding)

18849 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%\* U+2734

18850 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (b-bding)

18851 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%\* U+2735

18852 % U+2736 SIX POINTED BLACK STAR; \SixStar (b-bding)

18853 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%\* U+2736

18854 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (b-bding)

18855 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%\* U+2737

18856 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (b-bding)

18857 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%\* U+2738

18858 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (b-bding)

18859 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%\* U+2739

18860 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (b-bding)

18861 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%\* U+273A

18862 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (b-bding)

18863 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%\* U+273B

18864 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;

18865 % \SixFlowerOpenCenter (b-bding)

18866 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%\* U+273C

18867 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (b-bding)

18868 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%\* U+273D

18869 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (b-bding)

18870 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%\* U+273E

18871 % U+273F BLACK FLORETTE; \FiveFlowerPetal (b-bding)

18872 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%\* U+273F

18873 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (b-bding)



18874 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%\* U+2740  
 18875 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlow-  
 erPetal (bding)  
 18876 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%\* U+2741  
 18877 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \Sunshi-  
 neOpenCircled (bding)  
 18878 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%\* U+2742  
 18879 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlow-  
 erAltPetal (bding)  
 18880 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%\* U+2743  
 18881 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)  
 18882 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%\* U+2744  
 18883 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)  
 18884 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%\* U+2745  
 18885 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)  
 18886 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%\* U+2746  
 18887 % U+2747 SPARKLE; \Sparkle (bding)  
 18888 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%\* U+2747  
 18889 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)  
 18890 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%\* U+2748  
 18891 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)  
 18892 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%\* U+2749  
 18893 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 18894 % \EightFlowerPetalRemoved (bding)  
 18895 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%\* U+274A  
 18896 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 18897 % \EightAsterisk (bding)  
 18898 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%\* U+274B  
 18899 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)  
 18900 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%\* U+274D  
 18901 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;  
 18902 % \SquareShadowBottomRight (bding)  
 18903 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%\* U+274F  
 18904 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;  
 18905 % \SquareShadowTopRight (bding)  
 18906 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%\* U+2750  
 18907 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;  
 18908 % \SquareCastShadowBottomRight (bding)  
 18909 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%\* U+2751  
 18910 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;  
 18911 % \SquareCastShadowTopRight (bding)  
 18912 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%\* U+2752  
 18913 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (b-  
 ding)  
 18914 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%\* U+2756  
 18915 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)  
 18916 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%\* U+2758  
 18917 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)  
 18918 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%\* U+2759  
 18919 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bding)  
 18920 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%\* U+275A

### 51.2.29 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

18921 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)  
 18922 \DeclareTextCommand{\textperp}{PU}{\9047\302}%\* U+27C2  
 18923 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)  
 18924 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%\* U+27C7

18925 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)  
18926 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%\* U+27D1  
18927 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)  
18928 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%\* U+27DC  
18929 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
18930 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%\* U+27E6  
18931 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
18932 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%\* U+27E7

### 51.2.30 Supplemental Arrows-A: U+27F0 to U+27FF

18933 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;  
18934 % \circlearrowleft (AmS)  
18935 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%\* U+27F2  
18936 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)  
18937 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%\* U+27F3  
18938 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)  
18939 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%\* U+27F5  
18940 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)  
18941 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%\* U+27F6  
18942 % U+27F7 LONG LEFT RIGHT ARROW; \longleftrightarrow (AmS)  
18943 \DeclareTextCommand{\textlongleftrightarrow}{PU}{\9047\367}%\* U+27F7  
18944 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)  
18945 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%\* U+27F8  
18946 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \longrightarrow (AmS)  
18947 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%\* U+27F9  
18948 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longleftrightarrow (AmS)  
18949 \DeclareTextCommand{\textLongleftrightarrow}{PU}{\9047\372}%\* U+27FA  
18950 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)  
18951 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%\* U+27FC  
18952 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmaps-  
from (stmaryrd)  
18953 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%\* U+27FD  
18954 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmap-  
sto (stmaryrd)  
18955 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%\* U+27FE

### 51.2.31 Supplemental Arrows-B

18956 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSym-  
bol)  
18957 \DeclareTextCommand{\textnwsearrow}{PU}{\051\041}%\* U+2921  
18958 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSym-  
bol)  
18959 \DeclareTextCommand{\textneswarrow}{PU}{\051\042}%\* U+2922  
18960 % U+2923 NORTH WEST ARROW WITH HOOK; \hooknwarrow (MnSymbol)  
18961 \DeclareTextCommand{\texthooknwarrow}{PU}{\051\043}%\* U+2923  
18962 % U+2924 NORTH EAST ARROW WITH HOOK; \hooknearrow (MnSymbol)  
18963 \DeclareTextCommand{\textrhooknearrow}{PU}{\051\044}%\* U+2924  
18964 % U+2925 SOUTH EAST ARROW WITH HOOK; \hooksearrow (MnSymbol)  
18965 \DeclareTextCommand{\texthooksearrow}{PU}{\051\045}%\* U+2925  
18966 % U+2926 SOUTH WEST ARROW WITH HOOK; \hookswarrow (MnSymbol)  
18967 \DeclareTextCommand{\textrhookswarrow}{PU}{\051\046}%\* U+2926  
18968 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;  
18969 % \rcurvearrowne (MnSymbol)  
18970 \DeclareTextCommand{\textrcurvearrowne}{PU}{\051\064}%\* U+2934  
18971 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWN-  
WARDS;  
18972 % \lcurvearrowse (MnSymbol)

18973 \DeclareTextCommand{\textlcurvearrowse}{PU}{\051\065}%\* U+2935  
 18974 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFT-  
 WARDS;  
 18975 % \lcurvearrowsw (MnSymbol)  
 18976 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\051\066}%\* U+2936  
 18977 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHT-  
 WARDS;  
 18978 % \rcurvearrowse (MnSymbol)  
 18979 \DeclareTextCommand{\textrcurvearrowse}{PU}{\051\067}%\* U+2937  
 18980 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (Mn-  
 Symbol)  
 18981 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\051\070}%\* U+2938  
 18982 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;  
 18983 % \rcurvearrowdown (MnSymbol)  
 18984 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\051\071}%\* U+2939  
 18985 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSym-  
 bol)  
 18986 \DeclareTextCommand{\textrcurvearrowleft}{PU}{\051\072}%\* U+293A  
 18987 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;  
 18988 % \rcurvearrowright (MnSymbol)  
 18989 \DeclareTextCommand{\textrcurvearrowright}{PU}{\051\073}%\* U+293B  
 18990 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrighthar-  
 poon (mathabx)  
 18991 \DeclareTextCommand{\textleftrightharpoon}{PU}{\051\112}%\* U+294A  
 18992 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightlefthar-  
 poon (mathabx)  
 18993 \DeclareTextCommand{\textrightleftharpoon}{PU}{\051\113}%\* U+294B  
 18994 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;  
 18995 % \updownharpoonrightleft (MnSymbol)  
 18996 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\051\114}%\* U+294C  
 18997 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;  
 18998 % \updownharpoonleftright (MnSymbol)  
 18999 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\051\115}%\* U+294D  
 19000 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS  
 19001 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)  
 19002 \DeclareTextCommand{\textleftleftharpoons}{PU}{\051\142}%\* U+2962  
 19003 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS  
 19004 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)  
 19005 \DeclareTextCommand{\textupupharpoons}{PU}{\051\143}%\* U+2963  
 19006 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-  
 WARDS HARPOON  
 19007 % WITH BARB DOWN; \rightrightarpoons (mathabx)  
 19008 \DeclareTextCommand{\textrightarpoons}{PU}{\051\144}%\* U+2964  
 19009 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 19010 % WITH BARB RIGHT; \downdownharpoons (mathabx)  
 19011 \DeclareTextCommand{\textdowndownharpoons}{PU}{\051\145}%\* U+2965  
 19012 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;  
 19013 % \leftbarharpoon (mathabx)  
 19014 \DeclareTextCommand{\textleftbarharpoon}{PU}{\051\152}%\* U+296A  
 19015 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW  
 19016 % LONG DASH; \barleftharpoon (mathabx)  
 19017 \DeclareTextCommand{\textbarleftharpoon}{PU}{\051\153}%\* U+196B  
 19018 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE  
 19019 % LONG DASH; \rightbarharpoon (mathabx)  
 19020 \DeclareTextCommand{\textrightbarharpoon}{PU}{\051\154}%\* U+296C  
 19021 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW

19022 % LONG DASH; \barrightharpoon (mathabx)  
19023 \DeclareTextCommand{\textbarrightharpoon}{PU}{\051\155}%\* U+296D  
19024 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
WARDS HARPOON  
19025 % WITH BARB RIGHT; \updownharpoons (mathabx)  
19026 \DeclareTextCommand{\textupdownharpoons}{PU}{\051\156}%\* U+296E  
19027 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-  
WARDS HARPOON  
19028 % WITH BARB RIGHT; \downupharpoons (mathabx)  
19029 \DeclareTextCommand{\textdownupharpoons}{PU}{\051\157}%\* U+296F

### 51.2.32 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

19030 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)  
19031 \DeclareTextCommand{\textobar}{PU}{\9051\266}%\* U+29B6  
19032 %\* \textobar -> \textvarobar (stmaryrd)  
19033 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)  
19034 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%\* U+29B8  
19035 %\* \textobslash -> \circledbslash (txfonts/pxfonts)  
19036 %\* \textobslash -> \obackslash (mathabx)  
19037 %\* \textobslash -> \varobslash (stmaryrd)  
19038 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF  
DIVIDED BY VERTICAL BAR; \obot (mathabx)  
19040 \DeclareTextCommand{\textobot}{PU}{\9051\272}%\* U+29BA  
19041 %\* \textobot -> \odplus (ulsy)  
19042 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)  
19043 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%\* U+29C0  
19044 %\* \textolessthan -> \varolessthan (stmaryrd)  
19045 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)  
19046 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%\* U+29C1  
19047 %\* \textogreaterthan -> \varogreaterthan (stmaryrd)  
19048 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)  
19049 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%\* U+29C4  
19050 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)  
19051 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%\* U+29C5  
19052 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)  
19053 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%\* U+29C6  
19054 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)  
19055 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%\* U+29C7  
19056 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)  
19057 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%\* U+29C8  
19058 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)  
19059 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%\* U+29DF  
19060 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)  
19061 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%\* U+29E2

### 51.2.33 Supplemental Mathematical Operators: U+2A00 to U+2AFF

19062 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)  
19063 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%\* U+2A04  
19064 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)  
19065 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%\* U+2A07  
19066 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)  
19067 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%\* U+2A08  
19068 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,  
pxfonts, wasysym)  
19070 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%\* U+2A1D  
19071 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)  
19072 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%\* U+2A22

19073 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)  
 19074 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%\* U+2A2A  
 19075 %\* \textminusdot -> \divdot (mathabx)  
 19076 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (math-  
 abx)  
 19077 \DeclareTextCommand{\textdotimes}{PU}{\9052\060}%\* U+2A30  
 19078 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;  
 19079 % \dtimes (mathdesign)  
 19080 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%\* U+2A32  
 19081 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)  
 19082 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%\* U+2A38  
 19083 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)  
 19084 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%\* U+2A3C  
 19085 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)  
 19086 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%\* U+2A4E  
 19087 %\* \textsqdoublecap -> \doublesqcap (MnSymbol)  
 19088 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)  
 19089 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%\* U+2A40  
 19090 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)  
 19091 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%\* U+2A4F  
 19092 %\* \textsqdoublecup -> \doublesqcup (MnSymbol)  
 19093 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)  
 19094 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%\* U+2A55  
 19095 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)  
 19096 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%\* U+2A56  
 19097 %\* \textdoublevee -> \merge (stmaryrd)  
 19098 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;  
 19099 % \doublebarwedge (AmS)  
 19100 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%\* U+2A5E  
 19101 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;  
 19102 % \veedoublebar (mathabx)  
 19103 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%\* U+2A63  
 19104 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)  
 19105 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%\* U+2A66  
 19106 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)  
 19107 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%\* U+2A74  
 19108 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)  
 19109 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%\* U+2A7D  
 19110 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)  
 19111 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%\* U+2A7E  
 19112 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)  
 19113 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%\* U+2A85  
 19114 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)  
 19115 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%\* U+2A86  
 19116 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)  
 19117 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%\* U+2A87  
 19118 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;  
 19119 % \gneq (AmS)  
 19120 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%\* U+2A88  
 19121 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)  
 19122 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%\* U+2A89  
 19123 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)  
 19124 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%\* U+2A8A  
 19125 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-THAN;  
 19126 % \lesseqqgtr (AmS)  
 19127 \DeclareTextCommand{\textlesseqqgtr}{PU}{\9052\213}%\* U+2A8B  
 19128 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-THAN;

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19129 % \gtreqless (AmS)
19130 \DeclareTextCommand{\textgtreqless}{PU}{\9052\214}%* U+2A8C
19131 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)
19132 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%* U+2A95
19133 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)
19134 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%* U+2A96
19135 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)
19136 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%* U+2AA6
19137 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)
19138 \DeclareTextCommand{\textrightangle}{PU}{\9052\247}%* U+2AA7
19139 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-
    Symbol)
19140 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%* U+2AAF
19141 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-
    Symbol)
19142 \DeclareTextCommand{\textsucceed}{PU}{\9052\260}%* U+2AB0
19143 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \prec-
    neq (mathabx)
19144 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%* U+2AB1
19145 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succ-
    neq (mathabx)
19146 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%* U+2AB2
19147 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)
19148 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%* U+2AB3
19149 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)
19150 \DeclareTextCommand{\textsucceedqq}{PU}{\9052\264}%* U+2AB4
19151 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)
19152 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%* U+2AB5
19153 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)
19154 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%* U+2AB6
19155 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)
19156 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%* U+2AB7
19157 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
19158 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
19159 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-
    prox (AmS)
19160 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
19161 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-
    prox (AmS)
19162 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%* U+2ABA
19163 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
19164 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
19165 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)
19166 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
19167 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
19168 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
19169 %* \textdashV -> \leftVdash (MnSymbol)
19170 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)
19171 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
19172 %* \textDashv -> \leftmodels (MnSymbol)
19173 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;
19174 % \DashV (mathabx)
19175 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%* U+2AE5
19176 %* \textDashV -> \leftModels (MnSymbol)
19177 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)
19178 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%* U+2AEA
19179 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)

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19180 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%\* U+2AEB  
 19181 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)  
 19182 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%\* U+2AEF  
 19183 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;  
 19184 % \interleave (stmaryrd)  
 19185 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%\* U+2AF4  
 19186 % U+2AFD DOUBLE SOLIDUS OPERATOR; \slash (stmaryrd)  
 19187 \DeclareTextCommand{\textslash}{PU}{\9052\375}%\* U+2AFD  
 19188 %\* \textslash -> \varparallel (txfonts\pxfonts)

#### 51.2.34 Latin Extended-C: U+2C60 to U+2C7F

19189 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J  
 19190 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%\* U+2C7C

#### 51.2.35 Supplemental Punctuation: U+2E00 to U+2E7F

19191 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)  
 19192 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%\* U+2E13  
 19193 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)  
 19194 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18  
 19195 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)  
 19196 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%\* U+2E2D

#### 51.2.36 Modifier Tone Letters: U+A700 to U+A71F

19197 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)  
 19198 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B  
 19199 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;  
 19200 % \textdownstep (tipa)  
 19201 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

#### 51.2.37 Latin Extended-D: U+A720 to U+A7FF

19202 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)  
 19203 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727  
 19204 %\* \textPUheng -> \textheng (tipx)  
 19205 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)  
 19206 \DeclareTextCommand{\textPUIhookfour}{PU}{\9247\054}% U+A72C  
 19207 %\* \textPUIhookfour -> \textlhookfour (tipx)  
 19208 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)  
 19209 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730  
 19210 %\* \textPUscf -> \textscf (tipx)  
 19211 % U+A735 LATIN SMALL LETTER AO; \textaoilig (tipx)  
 19212 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735  
 19213 %\* \textPUaolig -> \textaoilig (tipx)  
 19214 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)  
 19215 \DeclareTextCommand{\textoo}{PU}{\9247\117}%\* U+A74F  
 19216 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT  
 19217 \DeclareTextCommand{\textcircumlowlow}{PU}{\9247\210}% U+A788

#### 51.2.38 Alphabetic Presentation Forms: U+FB00 to U+FB4F

19218 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 19219 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 19220 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 19221 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

#### 51.2.39 Musical Symbols: U+1D100 to U+1D1FF

19222 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)  
 19223 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%\* U+1D13B  
 19224 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)

19225 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%\* U+1D13C  
 19226 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)  
 19227 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%\* U+1D13D  
 19228 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)  
 19229 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%\* U+1D13E  
 19230 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)  
 19231 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%\* U+1D13F  
 19232 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)  
 19233 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%\* U+1D140  
 19234 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)  
 19235 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%\* U+1D15D  
 19236 %\* \textfullnote -> \Ganz (harmony)  
 19237 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)  
 19238 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%\* U+1D15E  
 19239 %\* \texthalfnote -> \Halb (harmony)  
 19240 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)  
 19241 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%\* U+1D15F  
 19242 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)  
 19243 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%\* U+1D160  
 19244 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)  
 19245 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%\* U+1D161  
 19246 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)  
 19247 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%\* U+1D162

#### 51.2.40 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19248 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)  
 19249 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%\* U+1F30D  
 19250 % U+1F469 WOMAN; \Womanface (marvosym)  
 19251 \DeclareTextCommand{\textWomanface}{PU}{\9330\075\9334\151}%\* U+1F469  
 19252 % U+1F525 FIRE; \Fire (ifsym)  
 19253 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%\* U+1F525

#### 51.2.41 Transport and Map Symbols: U+1F680 to U+1F6FF

19254 % U+1F6B2 BICYCLE; \Bicycle (marvosym)  
 19255 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%\* U+1F6B2  
 19256 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)  
 19257 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%\* U+1F6B9  
 19258 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)  
 19259 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%\* U+1F6BA

#### 51.2.42 Miscellaneous

19260 \DeclareTextCommand{\SS}{PU}{SS}  
 19261 % \textcopyleft (textcomp)  
 19262 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD  
 19263 % \ccnc (ccllicenses)  
 19264 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%\* U+0024 U+20E0  
 19265 % \ccnd (ccllicenses)  
 19266 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%\* U+003D U+20DD  
 19267 % \ccsa (ccllicenses)  
 19268 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%\* U+27F2 U+20DD  
 19269 % \CircledA (marvosym)  
 19270 \DeclareTextCommand{\textCircledA}{PU}{A\9040\335}%\* U+0041 U+20DD  
 19271 % \Info (marvosym, china2e)  
 19272 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\940\336}%\* U+1D422 U+20DE

#### 51.2.43 Aliases

Aliases (german.sty)



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19273 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
19274 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
19275 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
19276 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
19277 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
19278 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
19279 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
19280 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}
Aliases (math names)
19281 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
19282 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
19283 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
19284 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
19285 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
19286 </puenc>

```

### 51.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

19287 <*puvnenc>
19288 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
19289 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
19290 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
19291 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
19292 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
19293 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
19294 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
19295 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
19296 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
19297 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
19298 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
19299 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF
19300 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
19301 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
19302 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0
19303 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
19304 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
19305 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
19306 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
19307 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}% U+1EB1
19308 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
19309 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
19310 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5
19311 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD
19312 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}% U+1EA7
19313 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9
19314 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB
19315 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
19316 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
19317 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8
19318 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB
19319 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
19320 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF
19321 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7
19322 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}% U+1EC1

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19323 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3  
 19324 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5  
 19325 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 19326 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
 19327 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 19328 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9  
 19329 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 19330 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 19331 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
 19332 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
 19333 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF  
 19334 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 19335 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1  
 19336 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9  
 19337 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}% U+1ED3  
 19338 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5  
 19339 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7  
 19340 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB  
 19341 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3  
 19342 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}% U+1EDD  
 19343 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF  
 19344 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1  
 19345 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 19346 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
 19347 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 19348 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7  
 19349 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 19350 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9  
 19351 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1  
 19352 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}% U+1EEB  
 19353 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED  
 19354 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF  
 19355 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 19356 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 19357 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 19358 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7  
 19359 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9  
 19360 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
 19361 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
 19362 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}% U+00C0  
 19363 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2  
 19364 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
 19365 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE  
 19366 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6  
 19367 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}% U+1EB0  
 19368 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2  
 19369 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4  
 19370 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4  
 19371 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC  
 19372 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6  
 19373 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8  
 19374 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA  
 19375 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
 19376 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
 19377 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}% U+00C8  
 19378 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA  
 19379 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC

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19380 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE
19381 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6
19382 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0
19383 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2
19384 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4
19385 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
19386 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
19387 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}% U+00CC
19388 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8
19389 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
19390 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
19391 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
19392 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}% U+00D2
19393 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE
19394 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
19395 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0
19396 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8
19397 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2
19398 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4
19399 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6
19400 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA
19401 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2
19402 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}% U+1EDC
19403 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE
19404 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0
19405 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
19406 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
19407 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9
19408 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6
19409 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
19410 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8
19411 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
19412 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}% U+1EEA
19413 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
19414 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
19415 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
19416 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
19417 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2
19418 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
19419 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
19420 </puvnenc>

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## 51.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

19421 <*puarenc>
19422 % U+0621;afii57409;ARABIC LETTER HAMZA
19423 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
19424 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
19425 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
19426 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
19427 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
19428 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
19429 \DeclareTextCommand{\wawhamza}{PU}{\86\044} % U+0624
19430 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
19431 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625

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19432 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE  
 19433 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626  
 19434 % U+0627;afii57415;ARABIC LETTER ALEF  
 19435 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627  
 19436 % U+0628;afii57416;ARABIC LETTER BEH  
 19437 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628  
 19438 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA  
 19439 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629  
 19440 % U+062A;afii57418;ARABIC LETTER TEH  
 19441 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A  
 19442 % U+062B;afii57419;ARABIC LETTER THEH  
 19443 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B  
 19444 % U+062C;afii57420;ARABIC LETTER JEEM  
 19445 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C  
 19446 % U+062D;afii57421;ARABIC LETTER HAH  
 19447 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D  
 19448 % U+062E;afii57422;ARABIC LETTER KHAH  
 19449 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E  
 19450 % U+062F;afii57423;ARABIC LETTER DAL  
 19451 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F  
 19452 % U+0630;afii57424;ARABIC LETTER THAL  
 19453 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630  
 19454 % U+0631;afii57425;ARABIC LETTER REH  
 19455 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631  
 19456 % U+0632;afii57426;ARABIC LETTER ZAIN  
 19457 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632  
 19458 % U+0633;afii57427;ARABIC LETTER SEEN  
 19459 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633  
 19460 % U+0634;afii57428;ARABIC LETTER SHEEN  
 19461 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634  
 19462 % U+0635;afii57429;ARABIC LETTER SAD  
 19463 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635  
 19464 % U+0636;afii57430;ARABIC LETTER DAD  
 19465 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636  
 19466 % U+0637;afii57431;ARABIC LETTER TAH  
 19467 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637  
 19468 % U+0638;afii57432;ARABIC LETTER ZAH  
 19469 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638  
 19470 % U+0639;afii57433;ARABIC LETTER AIN  
 19471 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639  
 19472 % U+063A;afii57434;ARABIC LETTER GHAIN  
 19473 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A  
 19474 % U+0640;afii57440;ARABIC TATWEEL  
 19475 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640  
 19476 % U+0641;afii57441;ARABIC LETTER FEH  
 19477 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641  
 19478 % U+0642;afii57442;ARABIC LETTER QAF  
 19479 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642  
 19480 % U+0643;afii57443;ARABIC LETTER KAF  
 19481 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643  
 19482 % U+0644;afii57444;ARABIC LETTER LAM  
 19483 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644  
 19484 % U+0645;afii57445;ARABIC LETTER MEEM  
 19485 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645  
 19486 % U+0646;afii57446;ARABIC LETTER NOON  
 19487 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646  
 19488 % U+0647;afii57470;ARABIC LETTER HEH

19489 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647  
 19490 % U+0648;afi57448;ARABIC LETTER WAW  
 19491 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648  
 19492 % U+0649;afi57449;ARABIC LETTER ALEF MAKSURA  
 19493 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649  
 19494 % U+064A;afi57450;ARABIC LETTER YEH  
 19495 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A  
  
 19496 % U+064B;afi57451;ARABIC FATHATAN  
 19497 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B  
 19498 % U+064C;afi57452;ARABIC DAMMATAN  
 19499 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C  
 19500 % U+064D;afi57453;ARABIC KASRATAN  
 19501 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D  
 19502 % U+064E;afi57454;ARABIC FATHA  
 19503 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E  
 19504 % U+064F;afi57455;ARABIC DAMMA  
 19505 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F  
 19506 % U+0650;afi57456;ARABIC KASRA  
 19507 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650  
 19508 % U+0651;afi57457;ARABIC SHADDA  
 19509 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651  
 19510 % U+0652;afi57458;ARABIC SUKUN  
 19511 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652  
  
 Farsi  
 19512 % U+067E ARABIC LETTER PEH; afi57506  
 19513 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E  
 19514 % U+0686 ARABIC LETTER TCHEH; afi57507  
 19515 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686  
 19516 % U+0698 ARABIC LETTER JEH; afi57508  
 19517 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698  
 19518 % U+06A9 ARABIC LETTER KEHEH  
 19519 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9  
 19520 % U+06AF ARABIC LETTER GAF; afi57509  
 19521 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF  
 19522 % U+06CC ARABIC LETTER FARSI YEH  
 19523 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC  
  
 19524 % U+200C ZERO WIDTH NON-JOINER; afi61664  
 19525 \DeclareTextCommand{\ZWJ}{PU}{\9040\014}% U+200C  
 19526 % U+200D ZERO WIDTH JOINER; afi301  
 19527 \DeclareTextCommand{\noboundary}{PU}{\9040\015}% U+200D  
 19528 (/puarenc)  
 19529 (\*psdextra)  
 19530 \Hy@VersionCheck{psdextra.def}  
 19531 \newcommand\*{\psdmapshortnames}{%  
 19532 \let\copyright\textcopyright  
 19533 \let\twosuperior\texttwosuperior  
 19534 \let\threesuperior\textthreesuperior  
 19535 \let\onesuperior\textonesuperior  
 19536 \let\Thorn\textThorn  
 19537 \let\thorn\textthorn  
 19538 \let\hbar\texthbar  
 19539 \let\hausasB\texthausasB  
 19540 \let\hausasD\texthausasD  
 19541 \let\hausasK\texthausasK  
 19542 \let\barl\textbarl

19543 \let\inve\textinve  
 19544 \let\slashc\textslashc  
 19545 \let\scripta\textscripta  
 19546 \let\openo\textopeno  
 19547 \let\rtaild\textrtaild  
 19548 \let\reve\textreve  
 19549 \let\schwa\textschwa  
 19550 \let\niepsilon\textniepsilon  
 19551 \let\reveysilon\textreveysilon  
 19552 \let\rhookreveysilon\texthookreveysilon  
 19553 \let\scriptg\textscriptg  
 19554 \let\scg\textscg  
 19555 \let\ipagamma\textipagamma  
 19556 \let\babygamma\textbabygamma  
 19557 \let\bari\textbari  
 19558 \let\niiota\textniiota  
 19559 \let\sci\textsci  
 19560 \let\scn\textscn  
 19561 \let\baro\textbaro  
 19562 \let\niphi\textniphi  
 19563 \let\longlegr\textlonglegr  
 19564 \let\scr\textscr  
 19565 \let\invscr\textinvscr  
 19566 \let\esh\textesh  
 19567 \let\baru\textbaru  
 19568 \let\niupsilon\textniupsilon  
 19569 \let\scriptv\textscriptv  
 19570 \let\turnv\textturnv  
 19571 \let\turnw\textturnw  
 19572 \let\turny\textturny  
 19573 \let\scy\textscy  
 19574 \let\yogh\textyogh  
 19575 \let\glotstop\textglotstop  
 19576 \let\revglotstop\textrevglotstop  
 19577 \let\invglotstop\textinvglotstop  
 19578 \let\Gamma\textGamma  
 19579 \let\Delta\textDelta  
 19580 \let\Theta\textTheta  
 19581 \let\Lambda\textLambda  
 19582 \let\Xi\textXi  
 19583 \let\Pi\textPi  
 19584 \let\Sigma\textSigma  
 19585 \let\Upsilon\textUpsilon  
 19586 \let\Phi\textPhi  
 19587 \let\Psi\textPsi  
 19588 \let\Omega\textOmega  
 19589 \let\alpha\textalpha  
 19590 \let\beta\textbeta  
 19591 \let\gamma\textgamma  
 19592 \let\delta\textdelta  
 19593 \let\epsilon\textepsilon  
 19594 \let\zeta\textzeta  
 19595 \let\eta\texteta  
 19596 \let\theta\texttheta  
 19597 \let\iota\textiota  
 19598 \let\kappa\textkappa  
 19599 \let\lambda\textlambda

19600 \let\mugreek\textmugreek  
 19601 \let\nu\textnu  
 19602 \let\xi\textxi  
 19603 \let\pi\textpi  
 19604 \let\rho\textrho  
 19605 \let\varsigma\textvarsigma  
 19606 \let\sigma\textsigma  
 19607 \let\tau\texttau  
 19608 \let\upsilon\textupsilon  
 19609 \let\phi\textphi  
 19610 \let\chi\textchi  
 19611 \let\psi\textpsi  
 19612 \let\omega\textomega  
 19613 \let\scd\textscd  
 19614 \let\scu\textscu  
 19615 \let\iinferior\textiinferior  
 19616 \let\rinferior\extrinferior  
 19617 \let\uinferior\textuinferior  
 19618 \let\vinferior\textvinferior  
 19619 \let\betainferior\textbetainferior  
 19620 \let\gammainferior\textgammainferior  
 19621 \let\rhoinferior\extrhoinferior  
 19622 \let\phiinferior\textphiinferior  
 19623 \let\chiinferior\textchiinferior  
 19624 \let\barsci\textbarsci  
 19625 \let\barp\textbarp  
 19626 \let\barscu\textbarscu  
 19627 \let\htrtaild\texthtrtaild  
 19628 \let\dagger\textdagger  
 19629 \let\bullet\textbullet  
 19630 \let\hdotfor\texthdotfor  
 19631 \let\prime\textprime  
 19632 \let\second\textsecond  
 19633 \let\third\textthird  
 19634 \let\backprime\textbackprime  
 19635 \let\lefttherefore\textlefttherefore  
 19636 \let\fourth\textfourth  
 19637 \let\diamonddots\textdiamonddots  
 19638 \let\zerosuperior\textzerosuperior  
 19639 \let\isuperior\textisuperior  
 19640 \let\foursuperior\textfoursuperior  
 19641 \let\fivesuperior\textfivesuperior  
 19642 \let\sixsuperior\textsixsuperior  
 19643 \let\sevensuperior\textsevensuperior  
 19644 \let\eightsuperior\texteightsuperior  
 19645 \let\ninesuperior\textninesuperior  
 19646 \let\plussuperior\textplussuperior  
 19647 \let\minussuperior\textminussuperior  
 19648 \let>equalsuperior\textequalsuperior  
 19649 \let\parenleftsuperior\textparenleftsuperior  
 19650 \let\parenrightsuperior\textparenrightsuperior  
 19651 \let\nsuperior\textnsuperior  
 19652 \let\zeroinferior\textzeroinferior  
 19653 \let\oneinferior\textoneinferior  
 19654 \let\twoinferior\texttwoinferior  
 19655 \let\threeinferior\textthreeinferior  
 19656 \let\fourinferior\textfourinferior

19657 \let\fiveinferior\textfiveinferior  
 19658 \let\sixinferior\textsixinferior  
 19659 \let\seveninferior\textseveninferior  
 19660 \let\eightinferior\texteightinferior  
 19661 \let\nineinferior\textnineinferior  
 19662 \let\plusinferior\textplusinferior  
 19663 \let\minusinferior\textminusinferior  
 19664 \let\equalsinferior\textequalsinferior  
 19665 \let\parenleftinferior\textparenleftinferior  
 19666 \let\parenrightinferior\textparenrightinferior  
 19667 \let\ainferior\textainferior  
 19668 \let\einferior\texteinferior  
 19669 \let\oinferior\textoinferior  
 19670 \let\xinferior\textxinferior  
 19671 \let\schwainferior\textschwainferior  
 19672 \let\hinferior\texthinferior  
 19673 \let\kinferior\textkinferior  
 19674 \let\linferior\textlinferior  
 19675 \let\minferior\textminferior  
 19676 \let\ninferior\textninferior  
 19677 \let\pinferior\textpinferior  
 19678 \let\sinferior\textsinferior  
 19679 \let\tinferior\texttinferior  
 19680 \let\hslash\texthslash  
 19681 \let\Im\textIm  
 19682 \let\ell\textell  
 19683 \let\wp\textwp  
 19684 \let\Re\textRe  
 19685 \let\mho\textmho  
 19686 \let\riota\textriota  
 19687 \let\Finv\textFinv  
 19688 \let\aleph\textaleph  
 19689 \let\beth\textbeth  
 19690 \let\gimel\textgimel  
 19691 \let\daleth\textdaleth  
 19692 \let\xfax\textfax  
 19693 \let\Game\textGame  
 19694 \let\leftarrow\textleftarrow  
 19695 \let\uparrow\textuparrow  
 19696 \let\rightarrow\textrightarrow  
 19697 \let\downarrow\textdownarrow  
 19698 \let\leftrightarrow\textleftrightarrow  
 19699 \let\updownarrow\textupdownarrow  
 19700 \let\nwarrow\textnwarrow  
 19701 \let\nearrow\textnearrow  
 19702 \let\searrow\textsearrow  
 19703 \let\swarrow\textswarrow  
 19704 \let\rightarrowtail\textrightarrowtail  
 19705 \let\rightarrowtail\textrightarrowtail  
 19706 \let\twoheadleftarrow\texttwoheadleftarrow  
 19707 \let\twoheaduparrow\texttwoheaduparrow  
 19708 \let\twoheadrightarrow\texttwoheadrightarrow  
 19709 \let\twoheaddownarrow\texttwoheaddownarrow  
 19710 \let\leftarrowtail\textleftarrowtail  
 19711 \let\rightarrowtail\textrightarrowtail  
 19712 \let\mapsto\textmapsto  
 19713 \let\hookrightarrow\texthookrightarrow



19714  $\backslash\text{hookrightarrow}$   
 19715  $\backslash\text{looparrowleft}$   
 19716  $\backslash\text{looparrowright}$   
 19717  $\backslash\text{nleftarrow}$   
 19718  $\backslash\text{lightning}$   
 19719  $\backslash\text{dlsh}$   
 19720  $\backslash\text{curvearrowleft}$   
 19721  $\backslash\text{curvearrowright}$   
 19722  $\backslash\text{leftharpoonup}$   
 19723  $\backslash\text{leftharpoondown}$   
 19724  $\backslash\text{upharpoonright}$   
 19725  $\backslash\text{upharpoonleft}$   
 19726  $\backslash\text{rightharpoonup}$   
 19727  $\backslash\text{rightharpoondown}$   
 19728  $\backslash\text{downharpoonright}$   
 19729  $\backslash\text{downharpoonleft}$   
 19730  $\backslash\text{rightleftarrows}$   
 19731  $\backslash\text{updownarrows}$   
 19732  $\backslash\text{leftrightarrows}$   
 19733  $\backslash\text{leftleftarrows}$   
 19734  $\backslash\text{upuparrows}$   
 19735  $\backslash\text{rightrightarrows}$   
 19736  $\backslash\text{downdownarrows}$   
 19737  $\backslash\text{leftrightharpoons}$   
 19738  $\backslash\text{rightleftharpoons}$   
 19739  $\backslash\text{nLeftarrow}$   
 19740  $\backslash\text{nLeftrightarrow}$   
 19741  $\backslash\text{nRrightarrow}$   
 19742  $\backslash\text{Leftarrow}$   
 19743  $\backslash\text{Uparrow}$   
 19744  $\backslash\text{Rrightarrow}$   
 19745  $\backslash\text{Downarrow}$   
 19746  $\backslash\text{Leftrightarrow}$   
 19747  $\backslash\text{Updownarrow}$   
 19748  $\backslash\text{Narrow}$   
 19749  $\backslash\text{Nearrow}$   
 19750  $\backslash\text{Searrow}$   
 19751  $\backslash\text{Svarrow}$   
 19752  $\backslash\text{Lleftarrow}$   
 19753  $\backslash\text{Rrightarrow}$   
 19754  $\backslash\text{leftsquigarrow}$   
 19755  $\backslash\text{rightsquigarrow}$   
 19756  $\backslash\text{dashleftarrow}$   
 19757  $\backslash\text{dasheduparrow}$   
 19758  $\backslash\text{dashrightarrow}$   
 19759  $\backslash\text{dasheddownarrow}$   
 19760  $\backslash\text{downuparrows}$   
 19761  $\backslash\text{forall}$   
 19762  $\backslash\text{complement}$   
 19763  $\backslash\text{partial}$   
 19764  $\backslash\text{exists}$   
 19765  $\backslash\text{nexists}$   
 19766  $\backslash\text{emptyset}$   
 19767  $\backslash\text{triangle}$   
 19768  $\backslash\text{nabla}$   
 19769  $\backslash\text{in}$   
 19770  $\backslash\text{notin}$

19771	<code>\let\smallin\textsmallin</code>
19772	<code>\let\ni\textni</code>
19773	<code>\let\notowner\textnotowner</code>
19774	<code>\let\smallowns\textsmallowns</code>
19775	<code>\let\prod\textprod</code>
19776	<code>\let\amalg\textamalg</code>
19777	<code>\let\sum\textsum</code>
19778	<code>\let\mp\textmp</code>
19779	<code>\let\dotplus\textdotplus</code>
19780	<code>\let\setminus\textsetminus</code>
19781	<code>\let\ast\textast</code>
19782	<code>\let\circ\textcirc</code>
19783	<code>\let\surd\textsurd</code>
19784	<code>\let\propto\textpropto</code>
19785	<code>\let\infty\textinfty</code>
19786	<code>\let\angle\textangle</code>
19787	<code>\let\measuredangle\textmeasuredangle</code>
19788	<code>\let\sphericalangle\textsphericalangle</code>
19789	<code>\let\mid\textmid</code>
19790	<code>\let\nmid\textnmid</code>
19791	<code>\let\parallel\textparallel</code>
19792	<code>\let\nparallel\textnparallel</code>
19793	<code>\let\wedge\textwedge</code>
19794	<code>\let\vee\textvee</code>
19795	<code>\let\cap\textcap</code>
19796	<code>\let\cup\textcup</code>
19797	<code>\let\int\textint</code>
19798	<code>\let\iint\textiint</code>
19799	<code>\let\iiint\textiiint</code>
19800	<code>\let\oint\textoint</code>
19801	<code>\let\oiint\textoiint</code>
19802	<code>\let\ointclockwise\textointclockwise</code>
19803	<code>\let\ointctrlockwise\textointctrlockwise</code>
19804	<code>\let\therefore\texttherefore</code>
19805	<code>\let\because\textbecause</code>
19806	<code>\let\vdots\textvdots</code>
19807	<code>\let\squaredots\textsquaredots</code>
19808	<code>\let\dotminus\textdotminus</code>
19809	<code>\let\eqcolon\texteqcolon</code>
19810	<code>\let\sim\textsim</code>
19811	<code>\let\backsim\textbacksim</code>
19812	<code>\let\wr\textwr</code>
19813	<code>\let\sim\textnsim</code>
19814	<code>\let\simeq\textsimeq</code>
19815	<code>\let\cong\textcong</code>
19816	<code>\let\ncong\textncong</code>
19817	<code>\let\approx\textapprox</code>
19818	<code>\let\approxeq\textapproxeq</code>
19819	<code>\let\triplesim\texttriplesim</code>
19820	<code>\let\backcong\textbackcong</code>
19821	<code>\let\asymp\textasymp</code>
19822	<code>\let\Bumpeq\textBumpeq</code>
19823	<code>\let\bumpeq\textbumpeq</code>
19824	<code>\let\doteq\textdoteq</code>
19825	<code>\let\doteqdot\textdoteqdot</code>
19826	<code>\let\fallingdoteq\textfallingdoteq</code>
19827	<code>\let\risingdoteq\textrisingdoteq</code>

19828  $\backslash\text{colonequals}$   
 19829  $\backslash\text{equalscolon}$   
 19830  $\backslash\text{eqcirc}$   
 19831  $\backslash\text{circeq}$   
 19832  $\backslash\text{hateq}$   
 19833  $\backslash\text{triangleeq}$   
 19834  $\backslash\text{neq}$   
 19835  $\backslash\text{ne}$   
 19836  $\backslash\text{equiv}$   
 19837  $\backslash\text{nequiv}$   
 19838  $\backslash\text{leq}$   
 19839  $\backslash\text{le}$   
 19840  $\backslash\text{geq}$   
 19841  $\backslash\text{ge}$   
 19842  $\backslash\text{leqq}$   
 19843  $\backslash\text{geqq}$   
 19844  $\backslash\text{lneqq}$   
 19845  $\backslash\text{gneqq}$   
 19846  $\backslash\text{ll}$   
 19847  $\backslash\text{gg}$   
 19848  $\backslash\text{between}$   
 19849  $\backslash\text{nless}$   
 19850  $\backslash\text{ngr}$   
 19851  $\backslash\text{nleq}$   
 19852  $\backslash\text{ngeq}$   
 19853  $\backslash\text{lesssim}$   
 19854  $\backslash\text{gtrsim}$   
 19855  $\backslash\text{lessgtr}$   
 19856  $\backslash\text{gtrless}$   
 19857  $\backslash\text{prec}$   
 19858  $\backslash\text{succ}$   
 19859  $\backslash\text{preccurlyeq}$   
 19860  $\backslash\text{succcurlyeq}$   
 19861  $\backslash\text{precsim}$   
 19862  $\backslash\text{succsim}$   
 19863  $\backslash\text{nprec}$   
 19864  $\backslash\text{nsucc}$   
 19865  $\backslash\text{subset}$   
 19866  $\backslash\text{supset}$   
 19867  $\backslash\text{nssubset}$   
 19868  $\backslash\text{nsupset}$   
 19869  $\backslash\text{subsepeq}$   
 19870  $\backslash\text{supseteq}$   
 19871  $\backslash\text{nsubseteq}$   
 19872  $\backslash\text{nsupseteq}$   
 19873  $\backslash\text{subsetneq}$   
 19874  $\backslash\text{supsetneq}$   
 19875  $\backslash\text{cupdot}$   
 19876  $\backslash\text{cupplus}$   
 19877  $\backslash\text{sqsubset}$   
 19878  $\backslash\text{sqsupset}$   
 19879  $\backslash\text{sqsubsepeq}$   
 19880  $\backslash\text{sqsupseteq}$   
 19881  $\backslash\text{sqcap}$   
 19882  $\backslash\text{sqcup}$   
 19883  $\backslash\text{oplus}$   
 19884  $\backslash\text{ominus}$

19885 \let\otimes\textotimes  
 19886 \let\oslash\textoslash  
 19887 \let\odot\textodot  
 19888 \let\circledcirc\textcircledcirc  
 19889 \let\circledast\textcircledast  
 19890 \let\circleddash\textcircleddash  
 19891 \let\boxplus\textboxplus  
 19892 \let\boxminus\textboxminus  
 19893 \let\boxtimes\textboxtimes  
 19894 \let\boxdot\textboxdot  
 19895 \let\vdash\textvdash  
 19896 \let\dashv\textdashv  
 19897 \let\top\texttop  
 19898 \let\bot\textbot  
 19899 \let\vDash\textvDash  
 19900 \let\Vdash\textVdash  
 19901 \let\Vvdash\textVvdash  
 19902 \let\VDash\textVDash  
 19903 \let\nvdash\textnvdash  
 19904 \let\nvDash\textnvDash  
 19905 \let\NVDash\textNVDash  
 19906 \let\lhd\textlhd  
 19907 \let\rhd\textrhd  
 19908 \let\unlhd\textunlhd  
 19909 \let\unrhd\textunrhd  
 19910 \let\multimapdotbothA\textmultimapdotbothA  
 19911 \let\multimapdotbothB\textmultimapdotbothB  
 19912 \let\multimap\textmultimap  
 19913 \let\veebar\textveebar  
 19914 \let\barwedge\textbarwedge  
 19915 \let\star\textstar  
 19916 \let\divideontimes\textdivideontimes  
 19917 \let\bowtie\textbowtie  
 19918 \let\ltimes\textltimes  
 19919 \let\rtimes\textrtimes  
 19920 \let\leftthreetimes\textleftthreetimes  
 19921 \let\rightthreetimes\textrightthreetimes  
 19922 \let\backsimeq\textbacksimeq  
 19923 \let\curlyvee\textcurlyvee  
 19924 \let\curlywedge\textcurlywedge  
 19925 \let\Subset\textSubset  
 19926 \let\Supset\textSupset  
 19927 \let\Cap\textCap  
 19928 \let\Cup\textCup  
 19929 \let\pitchfork\textpitchfork  
 19930 \let\lessdot\textlessdot  
 19931 \let\gtrdot\textgtrdot  
 19932 \let\lll\textlll  
 19933 \let\ggg\textggg  
 19934 \let\lesseqgtr\textlesseqgtr  
 19935 \let\gtreqless\textgtreqless  
 19936 \let\curlyeqprec\textcurlyeqprec  
 19937 \let\curlyeqsucc\textcurlyeqsucc  
 19938 \let\npreccurlyeq\textnpreccurlyeq  
 19939 \let\nsucccurlyeq\textnsucccurlyeq  
 19940 \let\nqsubseteq\textnqsubseteq  
 19941 \let\nqsupseteq\textnqsupseteq

19942 \let\sqsubsetneq\textsqsubsetneq  
 19943 \let\sqsupsetneq\textsqsupsetneq  
 19944 \let\lnsim\textlnsim  
 19945 \let\gnsim\textgnsim  
 19946 \let\precnsim\textprecnsim  
 19947 \let\succnsim\textsuccnsim  
 19948 \let\ntrianglerleft\textntrianglerleft  
 19949 \let\ntrianglerright\textntrianglerright  
 19950 \let\ntrianglerleft\textntrianglerleft  
 19951 \let\ntrianglerright\textntrianglerright  
 19952 \let\vdots\textvdots  
 19953 \let\cdots\textcdots  
 19954 \let\udots\textudots  
 19955 \let\ddots\textddots  
 19956 \let\barin\textbarin  
 19957 \let\diameter\textdiameter  
 19958 \let\backneg\textbackneg  
 19959 \let\invbackneg\textinvbackneg  
 19960 \let\clock\textclock  
 19961 \let\ulcorner\textulcorner  
 19962 \let\urcorner\texturcorner  
 19963 \let\llcorner\textllcorner  
 19964 \let\lrcorner\textlrcorner  
 19965 \let\frown\textfrown  
 19966 \let\smile\textsmile  
 19967 \let\Keyboard\textKeyboard  
 19968 \let\langle\textlangle  
 19969 \let\rangle\textrangle  
 19970 \let\APLinv\textAPLinv  
 19971 \let\notslash\textnotslash  
 19972 \let\notbackslash\textnotbackslash  
 19973 \let\boxbackslash\textboxbackslash  
 19974 \let\APLleftarrowbox\textAPLleftarrowbox  
 19975 \let\APLrightarrowbox\textAPLrightarrowbox  
 19976 \let\APLuparrowbox\textAPLuparrowbox  
 19977 \let\APLdownarrowbox\textAPLdownarrowbox  
 19978 \let\APLinput\textAPLinput  
 19979 \let\Request\textRequest  
 19980 \let\bbslash\textbbslash  
 19981 \let\bigtriangleup\textbigtriangleup  
 19982 \let\triangleright\texttriangleright  
 19983 \let\bigtriangledown\textbigtriangledown  
 19984 \let\triangleleft\texttriangleleft  
 19985 \let\diamond\textdiamond  
 19986 \let\lozenge\textlozenge  
 19987 \let\openbullet\textopenbullet  
 19988 \let\boxbar\textboxbar  
 19989 \let\bigcircle\textbigcircle  
 19990 \let\Cloud\textCloud  
 19991 \let\FiveStar\textFiveStar  
 19992 \let\FiveStarOpen\textFiveStarOpen  
 19993 \let\Phone\textPhone  
 19994 \let\Checkedbox\textCheckedbox  
 19995 \let\Crossedbox\textCrossedbox  
 19996 \let\Coffeecup\textCoffeecup  
 19997 \let\HandCuffLeft\textHandCuffLeft  
 19998 \let\HandCuffRight\textHandCuffRight

19999 \let\HandLeft\textHandLeft  
 20000 \let\HandRight\textHandRight  
 20001 \let\Radioactivity\textRadioactivity  
 20002 \let\Biohazard\textBiohazard  
 20003 \let\Ankh\textAnkh  
 20004 \let\Yinyang\textYinyang  
 20005 \let\frownie\textfrownie  
 20006 \let\smiley\textsmiley  
 20007 \let\blacksmiley\textblacksmiley  
 20008 \let\sun\textsun  
 20009 \let\leftmoon\textleftmoon  
 20010 \let\rightmoon\textrightmoon  
 20011 \let\mercury\textmercury  
 20012 \let\earth\textearth  
 20013 \let\male\textmale  
 20014 \let\jupiter\textjupiter  
 20015 \let\saturn\textsaturn  
 20016 \let\uranus\texturanus  
 20017 \let\neptune\textneptune  
 20018 \let\pluto\textpluto  
 20019 \let\aries\textaries  
 20020 \let\taurus\texttaurus  
 20021 \let\gemini\textgemini  
 20022 \let\cancer\textcancer  
 20023 \let\leo\textleo  
 20024 \let\virgo\textvirgo  
 20025 \let\libra\textlibra  
 20026 \let\scorpio\textscorpio  
 20027 \let\sagittarius\textsagittarius  
 20028 \let\capricorn\textcapricorn  
 20029 \let\aquarius\textaquarius  
 20030 \let\pisces\textpisces  
 20031 \let\quarternote\textquarternote  
 20032 \let\twonotes\texttwonotes  
 20033 \let\sixteenthnote\textsixteenthnote  
 20034 \let\flat\textflat  
 20035 \let\natural\textnatural  
 20036 \let\sharp\textsharp  
 20037 \let\recycle\textrecycle  
 20038 \let\Wheelchair\textWheelchair  
 20039 \let\Flag\textFlag  
 20040 \let\ds\textds  
 20041 \let\ds\textds  
 20042 \let\ds\textds  
 20043 \let\ds\textds  
 20044 \let\ds\textds  
 20045 \let\ds\textds  
 20046 \let\manstar\textmanstar  
 20047 \let\danger\textdanger  
 20048 \let\FemaleFemale\textFemaleFemale  
 20049 \let\MaleMale\textMaleMale  
 20050 \let\FemaleMale\textFemaleMale  
 20051 \let\Hermaphrodite\textHermaphrodite  
 20052 \let\SunCload\textSunCload  
 20053 \let\Rain\textRain  
 20054 \let\noway\textnoway  
 20055 \let\Mountain\textMountain

20056 \let\Tent\textTent  
 20057 \let\ScissorRight\textScissorRight  
 20058 \let\ScissorRightBrokenTop\textScissorRightBrokenTop  
 20059 \let\ScissorHollowRight\textScissorHollowRight  
 20060 \let\PhoneHandset\textPhoneHandset  
 20061 \let\Tape\textTape  
 20062 \let\Plane\textPlane  
 20063 \let\Envelope\textEnvelope  
 20064 \let\Peace\textPeace  
 20065 \let\Writinghand\textWritinghand  
 20066 \let\PencilRightDown\textPencilRightDown  
 20067 \let\PencilRight\textPencilRight  
 20068 \let\PencilRightUp\textPencilRightUp  
 20069 \let\NibRight\textNibRight  
 20070 \let\NibSolidRight\textNibSolidRight  
 20071 \let\Checkmark\textCheckmark  
 20072 \let\CheckmarkBold\textCheckmarkBold  
 20073 \let\XSolid\textXSolid  
 20074 \let\XSolidBold\textXSolidBold  
 20075 \let\XSolidBrush\textXSolidBrush  
 20076 \let\PlusOutline\textPlusOutline  
 20077 \let\Plus\textPlus  
 20078 \let\PlusThinCenterOpen\textPlusThinCenterOpen  
 20079 \let\PlusCenterOpen\textPlusCenterOpen  
 20080 \let\Cross\textCross  
 20081 \let\CrossOpenShadow\textCrossOpenShadow  
 20082 \let\CrossOutline\textCrossOutline  
 20083 \let\CrossMaltese\textCrossMaltese  
 20084 \let\DavidStar\textDavidStar  
 20085 \let\FourAsterisk\textFourAsterisk  
 20086 \let\JackStar\textJackStar  
 20087 \let\JackStarBold\textJackStarBold  
 20088 \let\ClowerTips\textClowerTips  
 20089 \let\FourStar\textFourStar  
 20090 \let\FourStarOpen\textFourStarOpen  
 20091 \let\FiveStarOpenCircled\textFiveStarOpenCircled  
 20092 \let\FiveStarCenterOpen\textFiveStarCenterOpen  
 20093 \let\FiveStarOpenDotted\textFiveStarOpenDotted  
 20094 \let\FiveStarOutline\textFiveStarOutline  
 20095 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy  
 20096 \let\FiveStarConvex\textFiveStarConvex  
 20097 \let\FiveStarShadow\textFiveStarShadow  
 20098 \let\AsteriskBold\textAsteriskBold  
 20099 \let\AsteriskCenterOpen\textAsteriskCenterOpen  
 20100 \let\EightStarTaper\textEightStarTaper  
 20101 \let\EightStarConvex\textEightStarConvex  
 20102 \let\SixStar\textSixStar  
 20103 \let\EightStar\textEightStar  
 20104 \let\EightStarBold\textEightStarBold  
 20105 \let\TwelveStar\textTwelveStar  
 20106 \let\SixteenStarLight\textSixteenStarLight  
 20107 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved  
 20108 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter  
 20109 \let\Asterisk\textAsterisk  
 20110 \let\SixFlowerAlternate\textSixFlowerAlternate  
 20111 \let\FiveFlowerPetal\textFiveFlowerPetal  
 20112 \let\FiveFlowerOpen\textFiveFlowerOpen

20113 \let\EightFlowerPetal\textEightFlowerPetal  
 20114 \let\SunshineOpenCircled\textSunshineOpenCircled  
 20115 \let\SixFlowerAltPetal\textSixFlowerAltPetal  
 20116 \let\SnowflakeChevron\textSnowflakeChevron  
 20117 \let\Snowflake\textSnowflake  
 20118 \let\SnowflakeChevronBold\textSnowflakeChevronBold  
 20119 \let\Sparkle\textSparkle  
 20120 \let\SparkleBold\textSparkleBold  
 20121 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds  
 20122 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved  
 20123 \let\EightAsterisk\textEightAsterisk  
 20124 \let\CircleShadow\textCircleShadow  
 20125 \let\SquareShadowBottomRight\textSquareShadowBottomRight  
 20126 \let\SquareTopRight\textSquareTopRight  
 20127 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight  
 20128 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight  
 20129 \let\DiamandSolid\textDiamandSolid  
 20130 \let\RectangleThin\textRectangleThin  
 20131 \let\Rectangle\textRectangle  
 20132 \let\RectangleBold\textRectangleBold  
 20133 \let\perp\textperp  
 20134 \let\veedot\textveedot  
 20135 \let\wedgedot\textwedgedot  
 20136 \let\leftspoon\textleftspoon  
 20137 \let\lbrackdbl\textlbrackdbl  
 20138 \let\rbrackdbl\textrbrackdbl  
 20139 \let\circlearrowleft\textcirclearrowleft  
 20140 \let\circlearrowright\textcirclearrowright  
 20141 \let\longleftarrow\textlongleftarrow  
 20142 \let\longrightarrow\textlongrightarrow  
 20143 \let\longlefttrightarrow\textlonglefttrightarrow  
 20144 \let\Longleftarrow\textLongleftarrow  
 20145 \let\Longrightarrow\textLongrightarrow  
 20146 \let\Longlefttrightarrow\textLonglefttrightarrow  
 20147 \let\longmapsto\textlongmapsto  
 20148 \let\Longmapsfrom\textLongmapsfrom  
 20149 \let\Longmapsto\textLongmapsto  
 20150 \let\nwsearrow\textnwsearrow  
 20151 \let\neswarrow\textneswarrow  
 20152 \let\hooknwarrow\texthooknwarrow  
 20153 \let\rhooknearrow\texthooknearrow  
 20154 \let\hooksearrow\texthooksearrow  
 20155 \let\rhookswarrow\texthookswarrow  
 20156 \let\rcurvearrowne\textrcurvearrowne  
 20157 \let\lcurvearrowse\textlcurvearrowse  
 20158 \let\lcurvearrowsw\textlcurvearrowsw  
 20159 \let\rcurvearrowse\textrcurvearrowse  
 20160 \let\lcurvearrowdown\textlcurvearrowdown  
 20161 \let\rcurvearrowdown\textrcurvearrowdown  
 20162 \let\rcurvearrowleft\textrcurvearrowleft  
 20163 \let\rcurvearrowright\textrcurvearrowright  
 20164 \let\leftrightharpoon\textleftrightharpoon  
 20165 \let\rightrightarpoon\textrightleftharpoon  
 20166 \let\updownharpoonrightleft\textupdownharpoonrightleft  
 20167 \let\updownharpoonleftright\textupdownharpoonleftright  
 20168 \let\leftleftharpoons\textleftleftharpoons  
 20169 \let\upupharpoons\textupupharpoons



20170  $\backslash\mathrm{rightrightarpoons}\backslash\mathrm{textrightarpoons}$   
 20171  $\backslash\mathrm{downdownarpoons}\backslash\mathrm{textdowndownarpoons}$   
 20172  $\backslash\mathrm{leftbarharpoon}\backslash\mathrm{textleftbarharpoon}$   
 20173  $\backslash\mathrm{barleftharpoon}\backslash\mathrm{textbarleftharpoon}$   
 20174  $\backslash\mathrm{rightbarharpoon}\backslash\mathrm{textrightbarharpoon}$   
 20175  $\backslash\mathrm{barrightharpoon}\backslash\mathrm{textbarrightharpoon}$   
 20176  $\backslash\mathrm{updownarpoons}\backslash\mathrm{textupdownarpoons}$   
 20177  $\backslash\mathrm{downuparpoons}\backslash\mathrm{textdownuparpoons}$   
 20178  $\backslash\mathrm{obar}\backslash\mathrm{textobar}$   
 20179  $\backslash\mathrm{obslash}\backslash\mathrm{textobslash}$   
 20180  $\backslash\mathrm{obot}\backslash\mathrm{textobot}$   
 20181  $\backslash\mathrm{olessthan}\backslash\mathrm{textolessthan}$   
 20182  $\backslash\mathrm{ogreaterthan}\backslash\mathrm{textogreaterthan}$   
 20183  $\backslash\mathrm{boxslash}\backslash\mathrm{textboxslash}$   
 20184  $\backslash\mathrm{boxbslash}\backslash\mathrm{textboxbslash}$   
 20185  $\backslash\mathrm{boxast}\backslash\mathrm{textboxast}$   
 20186  $\backslash\mathrm{boxcircle}\backslash\mathrm{textboxcircle}$   
 20187  $\backslash\mathrm{boxbox}\backslash\mathrm{textboxbox}$   
 20188  $\backslash\mathrm{multimapboth}\backslash\mathrm{textmultimapboth}$   
 20189  $\backslash\mathrm{shuffle}\backslash\mathrm{textshuffle}$   
 20190  $\backslash\mathrm{upplus}\backslash\mathrm{textupplus}$   
 20191  $\backslash\mathrm{bigdoublewedge}\backslash\mathrm{textbigdoublewedge}$   
 20192  $\backslash\mathrm{bigdoublevee}\backslash\mathrm{textbigdoublevee}$   
 20193  $\backslash\mathrm{Join}\backslash\mathrm{textJoin}$   
 20194  $\backslash\mathrm{circplus}\backslash\mathrm{textcircplus}$   
 20195  $\backslash\mathrm{minusdot}\backslash\mathrm{textminusdot}$   
 20196  $\backslash\mathrm{dottimes}\backslash\mathrm{textdottimes}$   
 20197  $\backslash\mathrm{dtimes}\backslash\mathrm{textdtimes}$   
 20198  $\backslash\mathrm{odiv}\backslash\mathrm{textodiv}$   
 20199  $\backslash\mathrm{invneg}\backslash\mathrm{textinvneg}$   
 20200  $\backslash\mathrm{sqdoublecap}\backslash\mathrm{textsquaddoublecap}$   
 20201  $\backslash\mathrm{capdot}\backslash\mathrm{textcapdot}$   
 20202  $\backslash\mathrm{sqdoublecup}\backslash\mathrm{textsquaddoublecup}$   
 20203  $\backslash\mathrm{doublewedge}\backslash\mathrm{textdoublewedge}$   
 20204  $\backslash\mathrm{doublevee}\backslash\mathrm{textdoublevee}$   
 20205  $\backslash\mathrm{doublebarwedge}\backslash\mathrm{textdoublebarwedge}$   
 20206  $\backslash\mathrm{veedoublebar}\backslash\mathrm{textveedoublebar}$   
 20207  $\backslash\mathrm{eqdot}\backslash\mathrm{texteqdot}$   
 20208  $\backslash\mathrm{coloncolonequals}\backslash\mathrm{textcoloncolonequals}$   
 20209  $\backslash\mathrm{leqslant}\backslash\mathrm{textleqslant}$   
 20210  $\backslash\mathrm{geqslant}\backslash\mathrm{textgeqslant}$   
 20211  $\backslash\mathrm{lessapprox}\backslash\mathrm{textlessapprox}$   
 20212  $\backslash\mathrm{gtrapprox}\backslash\mathrm{textgtrapprox}$   
 20213  $\backslash\mathrm{lneq}\backslash\mathrm{textlneq}$   
 20214  $\backslash\mathrm{gneq}\backslash\mathrm{textgneq}$   
 20215  $\backslash\mathrm{lnapprox}\backslash\mathrm{textlnapprox}$   
 20216  $\backslash\mathrm{gnapprox}\backslash\mathrm{textgnapprox}$   
 20217  $\backslash\mathrm{lesseqgtr}\backslash\mathrm{textlesseqgtr}$   
 20218  $\backslash\mathrm{gtreqless}\backslash\mathrm{textgtreqless}$   
 20219  $\backslash\mathrm{eqslantless}\backslash\mathrm{texteqslantless}$   
 20220  $\backslash\mathrm{eqslantgtr}\backslash\mathrm{texteqslantgtr}$   
 20221  $\backslash\mathrm{leftslice}\backslash\mathrm{textleftslice}$   
 20222  $\backslash\mathrm{rightslice}\backslash\mathrm{textrightslice}$   
 20223  $\backslash\mathrm{preceq}\backslash\mathrm{textpreceq}$   
 20224  $\backslash\mathrm{succeq}\backslash\mathrm{textsucceq}$   
 20225  $\backslash\mathrm{precneq}\backslash\mathrm{textprecneq}$   
 20226  $\backslash\mathrm{succneq}\backslash\mathrm{textsuccneq}$

20227 \let\preceqq\textpreceqq  
 20228 \let\succeqq\textsucceqq  
 20229 \let\precneqq\textprecneqq  
 20230 \let\succneqq\textsuccneqq  
 20231 \let\precapprox\textprecapprox  
 20232 \let\precnapprox\textprecnapprox  
 20233 \let\succnapprox\textsuccnapprox  
 20234 \let\subseteqq\textsubseteqq  
 20235 \let\supseteqq\textsupseteqq  
 20236 \let\dashV\textdashV  
 20237 \let\Dashv\textDashv  
 20238 \let\DashV\textDashV  
 20239 \let\downmodels\textdownmodels  
 20240 \let\upmodels\textupmodels  
 20241 \let\upspoon\textupspoon  
 20242 \let\interleave\textinterleave  
 20243 \let\slash\textslash  
 20244 \let\jinferior\textjinferior  
 20245 \let\slashdiv\textslashdiv  
 20246 \let\fivedots\textfivedots  
 20247 \let\oo\textoo  
 20248 \let\GaPa\textGaPa  
 20249 \let\HaPa\textHaPa  
 20250 \let\ViPa\textViPa  
 20251 \let\AcPa\textAcPa  
 20252 \let\SePa\textSePa  
 20253 \let\ZwPa\textZwPa  
 20254 \let\fullnote\textfullnote  
 20255 \let\halfnote\texthalfnote  
 20256 \let\Vier\textVier  
 20257 \let\Acht\textAcht  
 20258 \let\Sech\textSech  
 20259 \let\Zwdr\textZwdr  
 20260 \let\Mundus\textMundus  
 20261 \let\Womanface\textWomanface  
 20262 \let\Fire\textFire  
 20263 \let\Bicycle\textBicycle  
 20264 \let\Gentsroom\textGentsroom  
 20265 \let\Ladiesroom\textLadiesroom  
 20266 \let\ccnc\textccnc  
 20267 \let\ccsa\textccsa  
 20268 \let\CircledA\textCircledA  
 20269 \let\Info\textInfo  
 20270 \let\neg\textneg  
 20271 \let\times\texttimes  
 20272 \let\div\textdiv  
 20273 \let\pm\textpm  
 20274 \let\cdot\textcdot  
 20275 }% \psdmapshortnames  
 20276 \newcommand\*{\psdaliasnames}{%  
 20277 \let\epsdice\HyPsd@DieFace  
 20278 \let\fcdice\HyPsd@DieFace  
 20279 \let\MoonPha\HyPsd@MoonPha  
 20280 \let\mathdollar\textdollar  
 20281 \let\binampersand\textampersand  
 20282 \let\with\textampersand  
 20283 \let\mathunderscore\textunderscore

20284 `\let\textvertline\textbar`  
 20285 `\let\mathsterling\textsterling`  
 20286 `\let\pounds\textsterling`  
 20287 `\let\brokenvert\textbrokenbar`  
 20288 `\let\mathsection\textsection`  
 20289 `\let\S\textsection`  
 20290 `\let\mathparagraph\textparagraph`  
 20291 `\let\vartimes\textmultiply`  
 20292 `\let\eth\dh`  
 20293 `\let\crossd\textcrd`  
 20294 `\let\textbard\textcrd`  
 20295 `\let\bard\textcrd`  
 20296 `\let\textcrh\texthbar`  
 20297 `\let\crossh\texthbar`  
 20298 `\let\planck\texthbar`  
 20299 `\let\eng\ng`  
 20300 `\let\engma\ng`  
 20301 `\let\crossb\textcrb`  
 20302 `\let\textbarb\textcrb`  
 20303 `\let\barb\textcrb`  
 20304 `\let\hv\texthvlig`  
 20305 `\let\hausak\texthtk`  
 20306 `\let\crossnilambda\textcrlambda`  
 20307 `\let\barlambda\textcrlambda`  
 20308 `\let\lambdabar\textcrlambda`  
 20309 `\let\lambdaslash\textcrlambda`  
 20310 `\let\textnrleg\textPUnrleg`  
 20311 `\let\textpipevar\textpipe`  
 20312 `\let\textdoublepipevar\textdoublepipe`  
 20313 `\let\textdoublebarpipevar\textdoublebarpipe`  
 20314 `\let\textcrg\textgslash`  
 20315 `\let\textdblig\textPUdblig`  
 20316 `\let\textqplig\textPUqplig`  
 20317 `\let\textcentoldstyle\textslashc`  
 20318 `\let\textbarc\textslashc`  
 20319 `\let\inva\textturna`  
 20320 `\let\vara\textscripta`  
 20321 `\let\invscripta\textturnscripta`  
 20322 `\let\rotvara\textturnscripta`  
 20323 `\let\hookb\texthtb`  
 20324 `\let\hausab\texthtb`  
 20325 `\let\varopeno\textopeno`  
 20326 `\let\curlyc\textctc`  
 20327 `\let\taild\textrtaild`  
 20328 `\let\hookd\texthtd`  
 20329 `\let\hausad\texthtd`  
 20330 `\let\er\textrhookschwa`  
 20331 `\let\epsi\textniepsilon`  
 20332 `\let\hookrevepsilon\texthookrevepsilon`  
 20333 `\let\closedrevepsilon\textcloserevepsilon`  
 20334 `\let\barj\textbardotlessj`  
 20335 `\let\hookg\texthtg`  
 20336 `\let\varg\textscriptg`  
 20337 `\let\vod\textipagamma`  
 20338 `\let\invh\textturnh`  
 20339 `\let\udesc\textturnh`  
 20340 `\let\hookh\textthh`

20341 \let\voicedh\textthth  
 20342 \let\hookheng\textthheng  
 20343 \let\ibar\textbari  
 20344 \let\vari\textniiota  
 20345 \let\tildel\textltilde  
 20346 \let\latfric\textbeltl  
 20347 \let\tail\textrtail  
 20348 \let\lz\textlyoghlig  
 20349 \let\inv\textturnm  
 20350 \let\rotr\textturnm  
 20351 \let\legm\textturnmrleg  
 20352 \let\labdentals\textltailm  
 20353 \let\emgma\textltailm  
 20354 \let\nj\textltailn  
 20355 \let\enya\textltailn  
 20356 \let\tailn\textrtailn  
 20357 \let\closedniomega\textcloseomega  
 20358 \let\varomega\textcloseomega  
 20359 \let\invr\textturnr  
 20360 \let\rotr\textturnr  
 20361 \let\invlegr\textturnlonglegr  
 20362 \let\tailinvr\textturnrrtail  
 20363 \let\legr\textlonglegr  
 20364 \let\tailr\textrtailr  
 20365 \let\flapr\textfishhookr  
 20366 \let\flap\textfishhookr  
 20367 \let\tails\textrtails  
 20368 \let\curlyesh\textctesh  
 20369 \let\clickt\textturnt  
 20370 \let\tailt\textrtailt  
 20371 \let\ubar\textbaru  
 20372 \let\rotOmega\textniupsilon  
 20373 \let\invv\textturnv  
 20374 \let\pwedge\textturnv  
 20375 \let\invw\textturnw  
 20376 \let\rotrw\textturnw  
 20377 \let\invy\textturny  
 20378 \let\roty\textturny  
 20379 \let\tailz\textrtailz  
 20380 \let\curlyz\textctz  
 20381 \let\curlyyogh\textctyogh  
 20382 \let\ejective\textglotstop  
 20383 \let\glottal\textglotstop  
 20384 \let\reveject\textrevglotstop  
 20385 \let\clickc\textstretchc  
 20386 \let\textstretchcvar\textstretchc  
 20387 \let\clickb\textbullseye  
 20388 \let\textObullseye\textbullseye  
 20389 \let\textctjvar\textctj  
 20390 \let\textturnsck\textturnk  
 20391 \let\dz\textdzlig  
 20392 \let\tesh\textteshlig  
 20393 \let\digamma\textdigammagreek  
 20394 \let\hardsign\cyrhrdsn  
 20395 \let\softsign\cyrsoftsn  
 20396 \let\textsck\textPUscck  
 20397 \let\textscm\textPUscm

20398 \let\textscp\textPUscp  
 20399 \let\textrevscr\textPUrevscr  
 20400 \let\textrhooka\textPURhooka  
 20401 \let\textrhooke\textPURhooke  
 20402 \let\textrhookepsilon\textPURhookepsilon  
 20403 \let\texthookopeno\textPURhookopeno  
 20404 \let\textdoublevertline\textbardbl  
 20405 \let\dag\textdagger  
 20406 \let\ddagger\textdaggerdbl  
 20407 \let\ddag\textdaggerdbl  
 20408 \let\mathellipsis\textellipsis  
 20409 \let\bindnasrepma\textinvamp  
 20410 \let\parr\textinvamp  
 20411 \let\textglobrise\textnearrow  
 20412 \let\textglobfall\textsearrow  
 20413 \let\Lightning\textlightning  
 20414 \let\dashedleftarrow\textdashleftarrow  
 20415 \let\dashedrightarrow\textdashrightarrow  
 20416 \let\varnothing\textemptyset  
 20417 \let\owns\textni  
 20418 \let\varangle\textsphericalangle  
 20419 \let\Anglesign\textsphericalangle  
 20420 \let\downtherefore\textbecause  
 20421 \let\textdotdiv\textdotminus  
 20422 \let\wreath\textwr  
 20423 \let\Doteq\textdoteqdot  
 20424 \let\corresponds\texthateq  
 20425 \let\varoplus\textoplus  
 20426 \let\varominus\textominus  
 20427 \let\varotimes\textotimes  
 20428 \let\varoslash\textoslash  
 20429 \let\varodot\textodot  
 20430 \let\ocirc\textcircledcirc  
 20431 \let\varocircle\textcircledcirc  
 20432 \let\varoast\textcircledast  
 20433 \let\oasterisk\textcircledast  
 20434 \let\rightvdash\textvdash  
 20435 \let\leftvdash\textdashv  
 20436 \let\downvdash\texttop  
 20437 \let\models\textvDash  
 20438 \let\rightmodels\textvDash  
 20439 \let\rightVdash\textVdash  
 20440 \let\rightModels\textVDash  
 20441 \let\lessclosed\textlhd  
 20442 \let\gtrclosed\textrhd  
 20443 \let\leqclosed\textunlhd  
 20444 \let\trianglelefteq\textunlhd  
 20445 \let\geqclosed\textunrhd  
 20446 \let\trianglerighteq\textunrhd  
 20447 \let\varcurlyvee\textcurlyvee  
 20448 \let\varcurlywedge\textcurlywedge  
 20449 \let\doublecap\textCap  
 20450 \let\doublecup\textCup  
 20451 \let\varsqsubsetneq\textsqsubsetneq  
 20452 \let\varsqsupsetneq\textsqsupsetneq  
 20453 \let\lessclosed\textntriangleleft  
 20454 \let\ngtrclosed\textntriangleright

20455 \let\Clocklogo\textclock  
 20456 \let\varparallelinv\textbbslash  
 20457 \let\Telefon\textPhone  
 20458 \let\rightpointleft\textHandLeft  
 20459 \let\leftpointright\textHandRight  
 20460 \let\PointingHand\textHandRight  
 20461 \let\Radiation\textRadioactivity  
 20462 \let\Frowny\textfrownie  
 20463 \let\Smiley\textsmiley  
 20464 \let\Mercury\textmercury  
 20465 \let\textfemale\textPUfemale  
 20466 \let\female\textPUfemale  
 20467 \let\venus\textPUfemale  
 20468 \let\Venus\textPUfemale  
 20469 \let\Earth\textearth  
 20470 \let\mars\textmale  
 20471 \let\Mars\textmale  
 20472 \let\Jupiter\textjupiter  
 20473 \let\Saturn\textsaturn  
 20474 \let\Uranus\texturanus  
 20475 \let\Neptune\textneptune  
 20476 \let\Pluto\textpluto  
 20477 \let\Aries\textaries  
 20478 \let\Taurus\texttaurus  
 20479 \let\Gemini\textgemini  
 20480 \let\Cancer\textcancer  
 20481 \let\Leo\textleo  
 20482 \let\Virgo\textvirgo  
 20483 \let\Libra\textlibra  
 20484 \let\Scorpio\textscorpio  
 20485 \let\Sagittarius\textsagittarius  
 20486 \let\Capricorn\textcapricorn  
 20487 \let\Aquarius\textaquarius  
 20488 \let\Pisces\textpisces  
 20489 \let\spadesuit\textspadesuitblack  
 20490 \let\heartsuit\textheartsuitwhite  
 20491 \let\diamondsuit\textdiamondsuitwhite  
 20492 \let\clubsuit\textclubsuitblack  
 20493 \let\eighthnote\textmusicalnote  
 20494 \let\VarFlag\textFlag  
 20495 \let\textxswup\textdsmilitary  
 20496 \let\textuncrfemale\textPUuncrfemale  
 20497 \let\Football\textSoccerBall  
 20498 \let\Cutright\textScissorRightBrokenBottom  
 20499 \let\Rightscissors\textScissorRight  
 20500 \let\Letter\textEnvelope  
 20501 \let\checkmark\textCheckmark  
 20502 \let\davidstar\textDavidStar  
 20503 \let\textvarobar\textobar  
 20504 \let\circledbslash\textobslash  
 20505 \let\obackslash\textobslash  
 20506 \let\varobslash\textobslash  
 20507 \let\odplus\textobot  
 20508 \let\varolessthan\textolessthan  
 20509 \let\varogreaterthan\textogreaterthan  
 20510 \let\divdot\textminusdot  
 20511 \let\doublesqcap\textsquaddoublecap

```

20512 \let\doublesqcup\textsqdoublecup
20513 \let\merge\textdoublevee
20514 \let\leftVdash\textdashV
20515 \let\leftmodels\textDashv
20516 \let\leftModels\textDashV
20517 \let\varparallel\textsslash
20518 \let\textheng\textPUheng
20519 \let\textlhookfour\textPUlhookfour
20520 \let\textscf\textPUscf
20521 \let\textaolig\textPUaolig
20522 \let\Ganz\textfullnote
20523 \let\Halb\texthalfnote
20524 }% \psdaliasnames
20525 </psdextra>

```

## 52 End of file hyccheck.tex

```

20526 <*check>
20527 \typeout{}
20528 \begin{document}
20529 \end{document}
20530 </check>

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