

# 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           \csname ver@\HyC@package.sty\endcsname
39         }}
```

```

40 }%
41 }

```

`\checkcommand` The macro `\checkcommand` parses the next tokens as a  $\text{\LaTeX}$  definition and compares this definition with the current meaning of that command.

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}

```



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

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

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

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

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

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

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

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

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

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

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

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

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

`\HyC@edef`

```

125 \def\HyC@def#1#{%
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 \def\Hy@Error{\@PackageError{hyperref}}
264 \def\Hy@Warning{\@PackageWarning{hyperref}}
265 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
266 \def\Hy@Info{\@PackageInfo{hyperref}}
267 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
268 \def\Hy@Message#1{%
269   \GenericWarning{%
270     (hyperref)\@spaces\@spaces\@spaces\@spaces
271   }{%
272     Package hyperref Message: #1\ltx@gobble
273   }%
274 }

```

## 4.2 Version check

\Hy@VersionChecked

```

275 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

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

```

\Hy@@VersionCheck

```

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

```

### 4.3 Checks with regular expressions

```

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

```
361 \ifundefined{AfterBeginDocument}{%
362   \def\AfterBeginDocument{\AtBeginDocument}%
363 }{}%
```

`\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.

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

`\Hy@AtEndOfPackage`

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

`\Hy@AtBeginDocumentHook`

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

`\Hy@AtEndOfPackageHook`

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

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

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

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

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

## 4.5 Switches

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

```

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

```

Defaults for the switches are now set.

```

431 \Hy@backreffalse
432 \Hy@bookmarksnumberedfalse
433 \Hy@bookmarksopenfalse
434 \Hy@bookmarkstrue
435 \Hy@breaklinksfalse
436 \Hy@pdfcenterwindowfalse
437 \Hy@CJKbookmarksfalse
438 \Hy@pdfescapeformfalse
439 \Hy@hyperfiguresfalse
440 \Hy@pdffitwindowfalse
441 \Hy@hyperfootnotetrue
442 \Hy@hyperindextrue
443 \Hy@hypertextnametrue
444 \Hy@implicittrue

```



```

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

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

471 \newdimen\@linkdim
472 \let\Hy@driver\ltx@empty
473 \let\MaybeStopEarly\relax
474 \newcount\Hy@linkcounter
475 \newcount\Hy@pagecounter
476 \Hy@linkcounter0
477 \Hy@pagecounter0

```

### 5.1 Macros for recursions

```

478 \let\Hy@ReturnEnd\@empty
479 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
480 \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.

```

481 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
482 \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`

```
483 \begingroup\expandafter\expandafter\expandafter\endgroup
484 \expandafter\ifx\csname dimexpr\endcsname\relax
485   \def\hypercalcbpdef#1#2{%
486     \begingroup
487       \toks@{}%
488       \HyCal@scan#2\hypercalcbp\@nil
489     \expandafter\endgroup
490     \expandafter\def\expandafter#1\expandafter{\the\toks@}%
491   }%
492   \def\HyCal@scan#1\hypercalcbp#2\@nil{%
493     \toks@\expandafter{\the\toks@ #1}%
494     \ifx\#2\%
495       \else
496         \ltx@ReturnAfterFi{%
497           \HyCal@do#2\@nil
498         }%
499       \fi
500     }%
501   \def\HyCal@do#1#2\@nil{%
502     \@ifpackageloaded{calc}{-}{%
503       \Hy@Warning{%
504         For calculations \string\hypercalcbp\space needs\MessageBreak
505         package calc or e-TeX%
506       }%
507     }%
508     \setlength{\dimen@}{#1}%
509     \setlength{\dimen@}{0.99626401\dimen@}%
510     \edef\x{%
511       \toks@{%
512         \the\toks@
```

```

513     \strip@pt\dimen@
514   }%
515 } \x
516   \HyCal@scan#2\@nil
517 }%
518 \else
519   \def\hypercalcbp#1{%
520     \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
521   }%
522   \def\hypercalcbpdef{\def}%
523 \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  $\text{\TeX}$ 's view PDF strings are written to a file and are expanded only in its mouth. Stomach commands that cannot be expanded further aren't executed, they are written verbatim. But the PDF reader that reads such a string isn't a  $\text{\TeX}$  interpreter!

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

1. Preprocessing. Here the expansion is prepared. The encoding is set and many commands are redefined, so that they work appropriate.
2. Expansion. The  $\text{\TeX}$  string is expanded the first time to get a PDF string.
3. Postprocessing. The result of the expansion is checked and converted to the final form.

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

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

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

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

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

```
525 \begingroup
```

### 6.2.1 Preprocessing

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

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

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

```
526 \escapechar'\%
```

From the view of  $\TeX$  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 this short commands does not apply.

```
527 \edef\0{\string\0}%
528 \edef\1{\string\1}%
529 \edef\2{\string\2}%
530 \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.

```
531 \ifHy@unicode
532 \edef\8{\string\8}%
533 \edef\9{\string\9}%
534 \fontencoding{PU}%
535 \HyPsd@UTFviii
536 \def\ifpdfstringunicode##1##2{##1}%
537 \else
538 \fontencoding{PD1}%
```

```

539 \def\ifpdfstringunicode##1##2{##2}%
540 \fi
541 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
542 \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).

```

543 \@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).

```

544 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

545 \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.

```

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

```

558 \def\\{\pdfstringdefWarn\\}%
559 \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.

```

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

```

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

```

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

```

```

611 \let\small\@empty
612 \let\tiny\@empty
613 \let\mathversion\@gobble
614 \let\phantom\@gobble
615 \let\vphantom\@gobble
616 \let\hphantom\@gobble

```

#### Package pifont.

```

617 \let\ding\HyPsd@ding
618 \let\Cube\HyPsd@DieFace
619 %* \HyPsd@DieFace -> \epsdice (epsdice)
620 %* \HyPsd@DieFace -> \fcdice (hhcount)

```

#### Environments.

```

621 \def\begin#1{\csname#1\endcsname}%
622 \def\end#1{\csname end#1\endcsname}%

```

#### Package color.

```

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

```

#### Upper- and lowercase.

```

624 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
625 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

626 \ifHy@psdextra
627 \ifHy@unicode
628 \csname psdmapshortnames\endcsname
629 \csname psdaliasnames\endcsname
630 \fi
631 \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)).

```

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

```

Disable \cyr, used in russianb.ldf.

```

643 \let\cyr\relax

```

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

```

644 \let\es@roman\@Roman

```

**Package german.**

```
645 \let\glqq\textglqq
646 \let\grqq\textgrqq
647 \let\glq\textglq
648 \let\grq\textgrq
649 \let\flqq\textflqq
650 \let\frqq\textfrqq
651 \let\flq\textflq
652 \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}

653 \let\if@mid@expandable\@firstoftwo
```

**AMS classes.**

```
654 \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.

```
655 \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.

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

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

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

**Miscellaneous commands.**

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

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

```
667 \def\halign{\pdfstringdefWarn\halign\@gobble}%
668 \let\ignorespaces\HyPsd@ignorespaces
669 \let\Hy@SectionAnchorHref\@gobble
670 \let\ensuremath\@firstofone
```

**Patch for cjk bookmarks.**

```
671 \HyPsd@CJKhook
```



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

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

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

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

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

**Package `xspace`.**

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

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

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

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

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

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

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

Support for package 'xargs':

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

## 6.2.2 Expansion

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

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

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

**\edef** This version uses this standard form for expansion. It is stronger than  $\LaTeX$ 's `\protected@edef`. So the font encoding mechanism works and the glyph commands are converted to the correct tokens for PDF strings with the definitions of the PD1 encoding. Because the protecting mechanism of  $\LaTeX$  doesn't work within an `\edef`, there are situations thinkable where code can break. For example, assignments and definitions aren't performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old texts. Now there are possibilities to write code that gives correct PDF strings (see `\texorpdfstring`). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with `\csname`. However a PDF reader isn't  $\TeX$ , so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning for the user. As additional features xspace support is possible and grouping characters can be used without problems, because they are removed silently.

**Generic messages.** While expanding via `\xdef` the `\Generic...` messages don't work and causes problems (error messages, invalid .out file). So they are disabled while expanding and removed silently, because a user warning would be too expensive (memory and runtime, `\pdfstringdef` is slow enough).

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

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

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

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

```
700 \let\Hy@temp\xdef
701 \let\def\HyPsd@DefCommand
702 \let\gdef\HyPsd@DefCommand
703 \let\edef\HyPsd@DefCommand
```

```

704 \let\xdef\HyPsd@DefCommand
705 \let\futurelet\HyPsd@LetCommand
706 \let\let\HyPsd@LetCommand
707 \Hy@temp#1{#2}%
708 \endgroup

```

### 6.2.3 Postprocessing

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

```

709 \ifx#1\@empty
710 \else

```

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

- $\text{\TeX}$  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  $\text{\TeX}$ '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.
- $\text{\TeX}$  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.

```

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

```

**Check tokens.** After removing the spaces and the grouping characters the string now should only 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.

```

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

```

\HyPsd@CheckCatcodes should no have removed the tokens with catcode 3, 4, 7, and 8. Because a parameter token (6) would cause to many errors before, there should now be only tokens with catcodes 11 or 12. So I think there is no need for a safety step like:

```
\xdef#1{\expandafter\strip@prefix\meaning#1}%
```

**Looking for wrong glyphs.** The case that glyphs aren't defined in the PD1 encoding is caught above in such a way, that the glyph name and a marker is inserted into the string. Now we can safely scan the string for this marker and provide a descriptive warning.

```

723 \expandafter
724 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
725 \let\HyPsd@String\@empty
726 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
727 \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.

```
728 \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.

```

729 \ifHy@unicode
730 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
731 \HyPsd@SPACEOPTI#1%
732 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
733 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
734 {\HyPsd@SPACEOPTI\80\273}#1%
735 \else
736 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
737 \expandafter\HyPsd@Subst\expandafter{%
738 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
739 \string\273}{\HyPsd@SPACEOPTI\273}#1%
740 \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.

```

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

```

753 \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
754 \ltx@ifundefined{@xspace}{%
755 }{%
756 \let\HyPsd@xspace\relax
757 \expandafter\HyPsd@Subst\expandafter
758 {\HyPsd@XSPACE}\HyPsd@xspace#1%
759 \let\HyPsd@xspace\HyPsd@doxspace
760 }%
761 \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.

```

762 \HyPsd@Subst{---}\textemdash#1%
763 \HyPsd@Subst{--}\textendash#1%

```

```

764 % \HyPsd@Subst{fi}\textfi#1%
765 % \HyPsd@Subst{fi}\textfi#1%
766 \HyPsd@Subst{!}\textexclamdown#1%
767 \HyPsd@Subst{?}\textquestiondown#1%

```

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

```

768 \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.

```

769 \ifHy@unicode
770 \HyPsd@StringSubst\(\textparenleft#1%
771 \HyPsd@Subst(\textparenleft#1%
772 \else
773 \HyPsd@StringSubst\({\050}#1%
774 \HyPsd@Subst({\050}#1%
775 \HyPsd@StringSubst{\050}\string\{ }#1%
776 \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.

```

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

```

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

```

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

```

788 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
789 \ltx@ifundefined{StringEncodingConvertTest}{%
790 }{%
791 \EdefUnescapeString\HyPsd@temp#1%
792 \ifxetex
793 \let\HyPsd@UnescapedString\HyPsd@temp
794 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
795 {utf16be}{ascii-print}{%
796 \EdefEscapeString\HyPsd@temp\HyPsd@temp
797 \global\let#1\HyPsd@temp
798 \HyPsd@EscapeTeX#1%
799 \Hy@unicodedefalse

```

```

800      }{%
801      \HyPsd@ToBigChars#1%
802      }%
803      \else
804      \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
805      {utf16be}{pdfdoc}{%
806      \EdefEscapeString\HyPsd@temp\HyPsd@temp
807      \global\let#1\HyPsd@temp
808      \HyPsd@EscapeTeX#1%
809      \Hy@unicodedefalse
810      }{%}%
811      \fi
812      }%
813      \fi
814      \fi
815      \HyPsd@XeTeXBigCharsfalse

```

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

```

816      \pdfstringdefPostHook#1%
817      \endgroup
818      }

```

`\Hy@pdfstringdef`

```

819 \def\Hy@pdfstringdef#1#2{%
820   \pdfstringdef\Hy@gtemp{#2}%
821   \let#1\Hy@gtemp
822 }

```

## 6.3 Encodings

### 6.3.1 XeTeX

```

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

```

```

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

```

### 6.3.2 Workaround for package linguex

```

896 \@ifpackageloaded{linguex}{%
897 \let\HyLinguex@OrgB\b
898 \let\HyLinguex@OrgC\c
899 \let\HyLinguex@OrgD\d
900 \def\HyLinguex@Restore{%
901 \let\b\HyLinguex@OrgB

```



```

902 \let\c\HyLinguex@OrgC
903 \let\d\HyLinguex@OrgD
904 }%
905 \Hy@AtEndOfPackage{%
906 \pdfstringdefDisableCommands{%
907 \ltx@ifundefined{oldb}{\let\b\oldb}%
908 \ltx@ifundefined{oldc}{\let\c\oldc}%
909 \ltx@ifundefined{oldd}{\let\d\oldd}%
910 }%
911 }%
912 }{%
913 \let\HyLinguex@Restore\relax
914 }%

```

### 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.

```

915 \@ifundefined{T@PD1}{%
916 \input{pd1enc.def}%
917 \HyLinguex@Restore
918 }{}
919 \DeclareFontFamily{PD1}{pdf}{}
920 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
921 \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`.

```

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

```

## 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.

```

933 \def\texorpdfstring{%
934   \ifHy@pdfstring
935     \expandafter\@secondoftwo
936   \else
937     \expandafter\@firstoftwo
938   \fi
939 }
```

#### 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`.

```

940 \@ifundefined{pdfstringdefPreHook}{%
941   \let\pdfstringdefPreHook\@empty
942 }{}
943 \@ifundefined{pdfstringdefPostHook}{%
944   \let\pdfstringdefPostHook\@gobble
945 }{}
```

`\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`.

```

946 \def\pdfstringdefDisableCommands{%
947   \begingroup
948     \makeatletter
949     \HyPsd@DisableCommands
950 }
```

`\HyPsd@DisableCommands`

```

951 \long\def\HyPsd@DisableCommands#1{%
952   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
953   \endgroup
954 }
```

`\pdfstringdefWarn` The purpose of `\pdfstringdefWarn` is to produce a warning message, so the user can see, that something can go wrong with the conversion to PDF strings.

The prefix `\<>-` is added to the token. `\noexpand` protects the probably undefined one during the first expansion step. Then `\HyPsd@CheckCatcodes` can detect the not allowed token, `\HyPsd@CatcodeWarning` prints a warning message, after `\HyPsd@RemovePrefix` has removed the prefix.

`\pdfstringdefWarn` is intended for document authors or package writers, examples for use can be seen in the definition of `\HyPsd@ifnextchar` or `\HyPsd@protected@testopt`.

```

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

```

## 6.5 Help macros for expansion

### 6.5.1 `\ignorespaces`

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

```

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

```

### 6.5.2 Babel languages

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

```

\pdfstringdefDisableCommands{%
  \languageshorthands{system}%
}

```

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

```

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

```

```

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

```

Nothing to do for english.

```

1011 \ltx@ifundefined{danish@sh@”@sel}{-}{%
1012   \def\HyPsd@babel@danish{%
1013     \declare@shorthand{danish}{-}{-}%
1014     \declare@shorthand{danish}{-}{-}%
1015   }%
1016 }
1017 \ltx@ifundefined{dutch@sh@”@sel}{-}{%
1018   \def\HyPsd@babel@dutch{%
1019     \declare@shorthand{dutch}{-}{-}%
1020     \declare@shorthand{dutch}{-}{-}%
1021   }%
1022 }
1023 \ltx@ifundefined{finnish@sh@”@sel}{-}{%
1024   \def\HyPsd@babel@finnish{%
1025     \declare@shorthand{finnish}{-}{-}%
1026   }%
1027 }
1028 \ltx@ifundefined{french@sh@:”@sel}{-}{%
1029   \def\HyPsd@babel@frenchb{%
1030     \def\guill@spacing{ }%
1031   }%
1032 }
1033 \ltx@ifundefined{german@sh@”@sel}{-}{%
1034   \def\HyPsd@babel@german{%
1035     \declare@shorthand{german}{f}{f}%
1036     \declare@shorthand{german}{-}{-}%
1037     \declare@shorthand{german}{-}{-}%
1038   }%
1039 }
1040 \ltx@ifundefined{macedonian@sh@”@sel}{-}{%

```

```

1041 \def\HyPsd@babel@macedonian{%
1042   \declare@shorthand{macedonian}{"}|{}%
1043   \declare@shorthand{macedonian}{"}~{}-%
1044 }%
1045 }
1046 \ltx@ifundefined{ngerman@sh@"@sel}{}{}%
1047 \def\HyPsd@babel@ngerman{%
1048   \declare@shorthand{ngerman}{"}|{}%
1049   \declare@shorthand{ngerman}{"}~{}-%
1050 }%
1051 }
1052 \ltx@ifundefined{portuges@sh@"@sel}{}{}%
1053 \def\HyPsd@babel@portuges{%
1054   \declare@shorthand{portuges}{"}|{}%
1055 }%
1056 }
1057 \ltx@ifundefined{russian@sh@"@sel}{}{}%
1058 \def\HyPsd@babel@russian{%
1059   \declare@shorthand{russian}{"}|{}%
1060   \declare@shorthand{russian}{"}~{}-%
1061 }%
1062 }
1063 \ltx@ifundefined{slovene@sh@"@sel}{}{}%
1064 \def\HyPsd@babel@slovene{%
1065   \declare@shorthand{slovene}{"}|{}%
1066 }%
1067 }

```

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

```

1068 \ltx@ifundefined{spanish@sh>@sel}{}{}%
1069 \def\HyPsd@babel@spanish{%
1070   \declare@shorthand{spanish}{<<}{\guillemotleft}%
1071   \declare@shorthand{spanish}{>>}{\guillemotright}%
1072   \declare@shorthand{spanish}{"}={}-%
1073   \declare@shorthand{spanish}{"}~{}-%
1074   \declare@shorthand{spanish}{"}!{}{\textexclamdown}%
1075   \declare@shorthand{spanish}{"}?{}{\textquestiondown}%
1076 }%
1077 }
1078 \ltx@ifundefined{swedish@sh@"@sel}{}{}%
1079 \def\HyPsd@babel@swedish{%
1080   \declare@shorthand{swedish}{"}|{}%
1081   \declare@shorthand{swedish}{"}~{}-%
1082 }%
1083 }
1084 \ltx@ifundefined{ukrainian@sh@"@sel}{}{}%
1085 \def\HyPsd@babel@ukrainian{%
1086   \declare@shorthand{ukrainian}{"}|{}%
1087   \declare@shorthand{ukrainian}{"}~{}-%
1088 }%
1089 }
1090 \ltx@ifundefined{usorbian@sh@"@sel}{}{}%
1091 \def\HyPsd@babel@usorbian{%
1092   \declare@shorthand{usorbian}{"}f{}{f}%
1093   \declare@shorthand{usorbian}{"}|{}%
1094 }%
1095 }
1096 \ltx@ifundefined{greek@sh@\string~@sel}{}%

```

```

1097 \let\HyPsd@GreekPatch\@empty
1098 }{%
1099 \def\HyPsd@GreekPatch{%
1100   \let\greeknumeral\HyPsd@greeknumeral
1101   \let\Greeknnumeral\HyPsd@Greeknnumeral
1102 }%
1103 }
1104 \def\HyPsd@greeknumeral#1{%
1105   \HyPsd@GreekNum\@firsttwo{#1}%
1106 }
1107 \def\HyPsd@Greeknnumeral#1{%
1108   \HyPsd@GreekNum\@secondtwo{#1}%
1109 }
1110 \def\HyPsd@GreekNum#1#2{%
1111   \ifHy@unicode
1112     \ifnum#2<\@ne
1113       \@arabic{#2}%
1114     \else
1115       \ifnum#2<1000000 %
1116         \HyPsd@@GreekNum#1{#2}%
1117       \else
1118         \@arabic{#2}%
1119       \fi
1120     \fi
1121   \else
1122     \@arabic{#2}%
1123   \fi
1124 }
1125 \def\HyPsd@@GreekNum#1#2{%
1126   \ifnum#2<\@m
1127     \ifnum#2<10 %
1128       \expandafter\HyPsd@GreekNumI
1129       \expandafter\@gobble\expandafter#1\number#2%
1130     \else
1131       \ifnum#2<100 %
1132         \expandafter\HyPsd@GreekNumII
1133         \expandafter\@gobble\expandafter#1\number#2%
1134       \else
1135         \expandafter\HyPsd@GreekNumIII
1136         \expandafter\@gobble\expandafter#1\number#2%
1137       \fi
1138     \fi
1139     \ifnum#2>\z@
1140       \textnumeralsigngreek
1141     \fi
1142   \else
1143     \ifnum#2<\@M
1144       \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1145     \else
1146       \ifnum#2<100000 %
1147         \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1148       \else
1149         \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1150       \fi
1151     \fi
1152   \fi
1153 }

```

```

1154 \def\HyPsd@GreekNumI#1#2#3{%
1155   #1{%
1156     \ifnum#3>\z@
1157       \textnumeralsignlowergreek
1158       \fi
1159   }%
1160   \expandafter#2%
1161   \ifcase#3 %
1162     {}{}%
1163     \or\textalpha\textAlpha
1164     \or\textbeta\textBeta
1165     \or\textgamma\textGamma
1166     \or\textdelta\textDelta
1167     \or\textepsilon\textEpsilon
1168     \or\textstigmagreek\textStigmagreek
1169     \or\textzeta\textZeta
1170     \or\texteta\textEta
1171     \or\texttheta\textTheta
1172   \else
1173     {}{}%
1174   \fi
1175 }
1176 \def\HyPsd@GreekNumII#1#2#3#4{%
1177   #1{%
1178     \ifnum#3>\z@
1179       \textnumeralsignlowergreek
1180       \fi
1181   }%
1182   \expandafter#2%
1183   \ifcase#3 %
1184     {}{}%
1185     \or\textiota\textIota
1186     \or\textkappa\textKappa
1187     \or\textlambda\textLambda
1188     \or\textmu\textMu
1189     \or\textnu\textNu
1190     \or\textxi\textXi
1191     \or\textomicron\textOmicron
1192     \or\textpi\textPi
1193     \or\textkoppagreek\textKoppagreek
1194   \else
1195     {}{}%
1196   \fi
1197   \HyPsd@GreekNumI#1#2#4%
1198 }
1199 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1200   #1{%
1201     \ifnum#3>\z@
1202       \textnumeralsignlowergreek
1203       \fi
1204   }%
1205   \expandafter#2%
1206   \ifcase#3 %
1207     {}{}%
1208     \or\textrho\textRho
1209     \or\textsigma\textSigma
1210     \or\texttau\textTau

```

```

1211 \or\textuppsilon\textUpsilon
1212 \or\textphi\textPhi
1213 \or\textchi\textChi
1214 \or\textpsi\textPsi
1215 \or\textomega\textOmega
1216 \or\textsamplegreek\textSampigreek
1217 \else
1218   {}{}%
1219 \fi
1220 \HyPsd@GreekNumII#1#2#4#5%
1221 }
1222 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1223   \HyPsd@GreekNumI\@firstofone#1#2%
1224   \HyPsd@@@GreekNum#1{#3#4#5}%
1225 }
1226 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1227   \HyPsd@GreekNumII\@firstofone#1#2#3%
1228   \HyPsd@@@GreekNum#1{#4#5#6}%
1229 }
1230 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1231   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1232   \HyPsd@@@GreekNum#1{#5#6#7}%
1233 }

1234 \def\HyPsd@SpanishPatch{%
1235   \ltx@ifundefined{es@save@dot}{}%
1236   }{%
1237     \let\.\es@save@dot
1238   }%
1239 }

```

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

```

1240 \def\HyPsd@RussianPatch{%
1241   \ltx@ifundefined{russian@sh@"@-@}{}%
1242   }{%
1243     \@namedef{russian@sh@"@-@}{-}%
1244   }%
1245 }

```

### 6.5.3 CJK patch

```

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

\HyPsd@CJKhook

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

```



### 6.5.4 CJK bookmarks

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

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

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

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

```

1258 \begingroup
1259 \catcode"7F=\active
1260 \toks@{%
1261 \let\CJK@ignorespaces\empty
1262 \def\CJK@char#1{\@gobbletwo}%
1263 \let\CJK@charx\@gobblefour
1264 \let\CJK@punctchar\@gobblefour
1265 \def\CJK@punctcharx#1{\@gobblefour}%
1266 \catcode"7F=\active
1267 \def^^7f#1^^7f#2^^7f{%
1268 \string #1\HyPsd@DecimalToOctal{#2}%
1269 }%
1270 % ... ?
1271 \ifHy@unicode
1272 \def\Hy@cjkpu{\80}%
1273 \else
1274 \let\Hy@cjkpu\@empty
1275 \fi
1276 \HyPsd@CJKActiveChars
1277 }%
1278 \count@=127 %
1279 \@whilenum\count@<255 \do{%
1280 \advance\count@ by 1 %
1281 \lccode'\~=\count@
1282 \lowercase{%
1283 \toks@\expandafter{\the\toks@ ~}%
1284 }%
1285 }%
1286 \toks@\expandafter{\the\toks@ !}%
1287 \xdef\HyPsd@CJKhook@bookmarks{%
1288 \the\toks@
1289 }%
1290 \endgroup

```

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

```

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

```

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

```

1299 \def\HyPsd@DecimalToOctal#1{%
1300   \ifcase #1 %
1301     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1302     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1303     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1304     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1305     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1306     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1307     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1308     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1309     \or @\or A\or B\or C\or D\or E\or F\or G%
1310     \or H\or I\or J\or K\or L\or M\or N\or O%
1311     \or P\or Q\or R\or S\or T\or U\or V\or W%
1312     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1313     \or \140\or a\or b\or c\or d\or e\or f\or g%
1314     \or h\or i\or j\or k\or l\or m\or n\or o%
1315     \or p\or q\or r\or s\or t\or u\or v\or w%
1316     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1317     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1318     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1319     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1320     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1321     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1322     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1323     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1324     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1325     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1326     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1327     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1328     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1329     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1330     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1331     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1332     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1333   \fi
1334 }

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

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

```

\HyPsd@CJK@Unicode

```

1340 \def\HyPsd@CJK@Unicode#1#2{%
1341   \ifnum#1<256 %
1342     \HyPsd@DecimalToOctalFirst{#1}%
1343     \HyPsd@DecimalToOctalSecond{#2}%
1344   \else
1345     \933%
1346     \expandafter\expandafter\expandafter\HyPsd@HighA
1347     \intcalcDiv{#1}{4}!%
1348     \933%
1349     \ifcase\intcalcMod{#1}{4} %

```

```

1350     4\or 5\or 6\or 7%
1351     \fi
1352     \HyPsd@DecimalToOctalSecond{#2}%
1353     \fi
1354 }

1355 \def\HyPsd@HighA#1!{%
1356     \expandafter\expandafter\expandafter\HyPsd@HighB
1357     \IntCalcDiv#1!64!!%
1358     \expandafter\expandafter\expandafter\HyPsd@HighD
1359     \IntCalcMod#1!64!!%
1360 }
1361 \def\HyPsd@HighB#1!{%
1362     \expandafter\expandafter\expandafter\HyPsd@HighC
1363     \IntCalcDec#1!!%
1364 }
1365 \def\HyPsd@HighC#1!{%
1366     \IntCalcDiv#1!4!%
1367     \@backslashchar
1368     \IntCalcMod#1!4!%
1369 }
1370 \def\HyPsd@HighD#1!{%
1371     \ifcase\IntCalcDiv#1!8! %
1372     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1373     \fi
1374     \ifcase\IntCalcMod#1!8! %
1375     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1376     \fi
1377 }
1378 \def\HyPsd@DecimalToOctalFirst#1{%
1379     \9%
1380     \ifcase#1 %
1381         000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1382         \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1383         \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1384         \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1385         \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1386         \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1387         \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1388         \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1389         \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1390         \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1391         \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1392         \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1393         \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1394         \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1395         \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1396         \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1397         \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1398         \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1399         \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1400         \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1401         \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1402         \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1403         \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1404         \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1405         \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1406         \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%

```

```

1407 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1408 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1409 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1410 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1411 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1412 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1413 \fi
1414 }
1415 \def\HyPsd@DecimalToOctalSecond#1{%
1416 \ifcase #1 %
1417 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1418 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1419 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1420 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1421 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1422 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1423 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1424 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1425 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1426 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1427 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1428 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1429 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1430 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1431 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1432 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1433 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1434 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1435 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1436 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1437 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1438 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1439 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1440 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1441 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1442 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1443 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1444 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1445 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1446 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1447 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1448 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1449 \fi
1450 }
1451 \def\HyPsd@CJKnumber#1{%
1452 \ifnum#1<\z@
1453 \CJK@minus
1454 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1455 \else
1456 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1457 \fi
1458 }
1459 \def\HyPsd@@CJKnumber#1{%
1460 \ifcase#1 %
1461 \CJK@zero\or \CJK@one\or \CJK@two\or \CJK@three\or \CJK@four\or
1462 \CJK@five\or \CJK@six\or \CJK@seven\or \CJK@eight\or \CJK@nine\or
1463 \CJK@ten\or \CJK@ten\CJK@one\or \CJK@ten\CJK@two\or

```

```

1464 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1465 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1466 \CJK@ten\CJK@nine
1467 \else
1468 \ifnum#1<10000 %
1469 \HyPsd@CJKnumberFour#1!\@empty{20}%
1470 \@empty
1471 \else
1472 \ifnum#1<100000000 %
1473 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1474 \IntCalcDiv#1!10000!%
1475 !\CJK@zero{20}%
1476 \CJK@tenthousand
1477 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1478 \IntCalcMod#1!10000!%
1479 !\CJK@zero{10}%
1480 \@empty
1481 \else
1482 \expandafter\HyPsd@CJKnumberLarge
1483 \number\IntCalcDiv#1!100000000!\expandafter!%
1484 \number\IntCalcMod#1!100000000!!%
1485 \fi
1486 \fi
1487 \fi
1488 }
1489 \def\HyPsd@CJKnumberLarge#1!#2!{%
1490 \HyPsd@CJKnumberFour#1!\@empty{20}%
1491 \CJK@hundredmillion
1492 \ifnum#2=\z@
1493 \else
1494 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1495 \IntCalcDiv#2!10000!%
1496 !\CJK@zero{10}%
1497 \CJK@tenthousand
1498 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1499 \IntCalcMod#2!10000!%
1500 !\CJK@zero{10}%
1501 \@empty
1502 \fi
1503 }
1504 \def\HyPsd@CJKnumberFour#1!#2#3{%
1505 \ifnum#1=\z@
1506 \expandafter\@gobble
1507 \else
1508 \ifnum#1<1000 %
1509 #2%
1510 \HyPsd@CJKnumberThree#1!\@empty{#3}%
1511 \else
1512 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1513 \CJK@thousand
1514 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1515 \IntCalcMod#1!1000!%
1516 !\CJK@zero{10}%
1517 \fi
1518 \fi
1519 }
1520 \def\HyPsd@CJKnumberThree#1!#2#3{%

```

```

1521 \ifnum#1=\z@
1522 \else
1523 \ifnum#1<100 %
1524 #2%
1525 \HyPsd@CJKnumberTwo#1!#{#3}%
1526 \else
1527 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1528 \CJK@hundred
1529 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1530 \IntCalcMod#1!100!%
1531 !\CJK@zero{10}%
1532 \fi
1533 \fi
1534 }
1535 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1536 \ifnum#1=\z@
1537 \else
1538 \ifnum#1<#3 %
1539 #2%
1540 \HyPsd@@CJKnumber{#1}%
1541 \else
1542 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1543 \CJK@ten
1544 \ifnum\IntCalcMod#1!10!=\z@
1545 \else
1546 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1547 \fi
1548 \fi
1549 \fi
1550 }
1551 \def\HyPsd@CJKdigits#1{%
1552 \ifx*#1\relax
1553 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1554 \else
1555 \HyPsd@@CJKdigits\CJK@null{#1}%
1556 \fi
1557 }
1558 \def\HyPsd@@CJKdigits#1#2{%
1559 \ifx\#2\%
1560 \else
1561 \HyPsd@@@CJKdigits#1#2\@nil
1562 \fi
1563 }%
1564 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1565 \HyPsd@CJKdigit#1{#2}%
1566 \ifx\#3\%
1567 \expandafter\@gobble
1568 \else
1569 \expandafter\@firstofone
1570 \fi
1571 {%
1572 \HyPsd@@@CJKdigits#1#3\@nil
1573 }%
1574 }
1575 \def\HyPsd@CJKdigit#1#2{%
1576 \ifcase#2 %
1577 #1\or

```

```

1578 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1579 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1580 \fi
1581 }

```

### 6.5.6 \@inmathwarn-Patch

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

To understand the patch easier, the original code of `\@current@cmd` and `\@changed@cmd` follows ( $\text{\LaTeX}$  2 $\epsilon$  release [1998/12/01]). In the normal case `\pdfstringdef` is executed in a context where `\protect` has the meaning of `\@typesetprotect` ( $=\text{\relax}$ ).

```

\def\@current@cmd#1{%
  \ifx\protect\@typesetprotect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changed@cmd#1#2{%
  \ifx\protect\@typesetprotect
    \@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}

1582 \def\HyPsd@inmathwarn#1#2{%
1583   \ifx#2\expandafter
1584     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1585       \HyPsd@GLYPHERR
1586       \expandafter\@gobble\string#1%
1587     >%
1588     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1589   \else

```

```

1590 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1591 \fi
1592 \else
1593 \expandafter#2%
1594 \fi
1595 }
1596 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1597 \def\HyPsd@EndWithElse#1\else{\else}

```

\HyPsd@add@accent

```

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

```

### 6.5.7 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

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

```

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

```

1605 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

### 6.5.8 Marker for commands

\HyPsd@XSPACE Some commands and informations cannot be utilized before the string expansion and the checking process. Command names are filtered out, so we need another way to transport the information: An unusual # with catcode 12 marks the beginning of the extra information.

```

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

```

### 6.5.9 \hspace fix

\HyPsd@hspace

```

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

```

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

```

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

```



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

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

#### 6.5.10 Fix for AMS classes

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

#### 6.5.11 Reference commands

`\HyPsd@href`

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

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

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

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

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

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

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

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

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

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

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

```

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

`\HyPsd@@@autorefname`

```

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

### 6.5.12 Redefining the defining commands

Definitions aren't allowed, because they aren't executed in an only expanding context. So the command to be defined isn't defined and can perhaps be undefined. This would 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 1722 \begingroup
1723   \def\x#1#2{%
1724     \endgroup
1725     \let#1\def
1726     \def\HyPsd@DefCommand##1##2###{%
1727       #1%
1728       \expandafter\noexpand
1729       \csname\expandafter\@gobble\string##1\@empty\endcsname
1730       \@gobble
1731     }%
1732     \let#2\let
1733     \def\HyPsd@@LetCommand##1{%
1734       \expandafter\ifx\csname##1\expandafter\endcsname
1735         \csname iftrue\endcsname
1736       \pdfstringdefWarn\let
1737       \expandafter\@gobble
1738     \else
1739       \expandafter\ifx\csname##1\expandafter\endcsname
1740         \csname iffalse\endcsname
1741       \pdfstringdefWarn\let
1742       \expandafter\expandafter\expandafter\@gobble
1743     \else
1744       #2%
1745       \expandafter\noexpand
1746       \csname##1\expandafter\expandafter\expandafter\endcsname
1747     \fi
1748   \fi
1749 }%
1750 }%
1751 \expandafter\x\csname <def>-command\expandafter\endcsname
1752   \csname <let>-command\endcsname
1753 \def\HyPsd@LetCommand#1{%
1754   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1755   \expandafter\expandafter\expandafter{%
1756     \expandafter\@gobble\string#1\@empty
1757   }%
1758 }
```

### 6.5.13 `\ifnextchar`

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

- `\@ifnextchar`
- `\kernel@ifnextchar`

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

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

#### 6.5.14 `\@protected@testoptifnextchar`

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

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

## 6.6 Help macros for postprocessing

### 6.6.1 Generic warning.

`\HyPsd@Warning` For several reasons `\space` is masked and does not have its normal meaning. But it is used in warning messages, so it is redefined locally:

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

### 6.6.2 Protecting spaces

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

`\HyPsd@ProtectSpaces` `\HyPsd@ProtectSpaces` calls with the expanded string `\HyPsd@@ProtectSpacesFi`. The expanded string is protected by `|` at the beginning and end of the expanded string. Because of this there can be no group at the beginning or end of the string and grouping characters are not removed by the call of `\HyPsd@@ProtectSpacesFi`.

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

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

```

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

```

### Remove mask.

`\HyPsd@RemoveMask` `\HyPsd@RemoveMask` removes the protecting `|`. It is used by `\HyPsd@@ProtectSpacesFi` and by the code in `\pdfstringdef` that removes the grouping characters.

```

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

1799 }{%
1800 \let\HyPsd@fi\fi
1801 \def\HyPsd@ProtectSpaces#1{%
1802   \xdef#1{%
1803     \iftrue
1804       \expandafter\HyPsd@@ProtectSpacesFi
1805       \expandafter|\expandafter\@empty#1| %
1806     \HyPsd@fi
1807   }%
1808   \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1809 }%
1810 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1811   \fi
1812   \etex@unexpanded{#1}%
1813   \ifx\scrollmode#2\scrollmode
1814   \else
1815     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1816   \HyPsd@fi
1817 }%
1818 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1819   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1820 }%
1821 }

```

### 6.6.3 Remove grouping braces

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

```

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

```

`\HyPsd@@RemoveBraces` `\HyPsd@@RemoveBraces` is called with the expanded string, the end marked by `\HyPsd@End`, the expanded string again, but enclosed in braces and the string

command. The first expanded string is scanned by the parameter text `#1#2`. By a comparison with the original form in `#3` we can decide whether `#1` is a single token or a group. To avoid the case that `#2` is a group, the string is extended by a `|` before.

While removing the grouping braces an italic correction marker is inserted for supporting package `xspace` and letting ligatures broken.

Because the string is already expanded, the `\if` commands should disappeared. So we can move some parts out of the argument of `\ltx@ReturnAfterFi`.

```

1828 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1829   \fi
1830   \def\Hy@temp@A{#1#2}%
1831   \def\Hy@temp@B{#3}%
1832   \ifx\Hy@temp@A\Hy@temp@B
1833     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1834       \HyPsd@String#1%
1835     }%
1836     \ifx\scrollmode#2\scrollmode
1837       \else
1838         \Hy@ReturnAfterFiFiEnd{%
1839           \HyPsd@RemoveBraces{#2}%
1840         }%
1841       \fi
1842     \else
1843       \def\Hy@temp@A{#1}%
1844       \HyPsd@AppendItalcrr\HyPsd@String
1845       \ifx\Hy@temp@A\@empty
1846         \Hy@ReturnAfterElseFiFiEnd{%
1847           \HyPsd@RemoveBraces{#2}%
1848         }%
1849       \else
1850         \HyPsd@ProtectSpaces\Hy@temp@A
1851         \HyPsd@AppendItalcrr\Hy@temp@A
1852         \Hy@ReturnAfterFiFiEnd{%
1853           \expandafter\HyPsd@RemoveBraces\expandafter
1854             {\Hy@temp@A#2}%
1855         }%
1856       \fi
1857     \fi
1858   \Hy@ReturnEnd
1859 }
```

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

```

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

#### 6.6.4 Catcode check

##### Check catcodes.

`\HyPsd@CheckCatcodes` Because `\ifcat` expands its arguments, this is prevented by `\noexpand`. In case of command tokens and active characters `\ifcat` now sees a `\relax`. After protecting

spaces and removing braces #1 should be a single token, no group of several tokens, nor an empty group. (So the `\expandafter\relax` between `\ifcat` and `\noexpand` is only for safety and it should be possible to remove it.)

`\protect` and `\relax` should be removed silently. But it is too dangerous and breaks some code giving them the meaning of `\@empty`. So commands with the meaning of `\protect` are removed here. (`\protect` should have the meaning of `\@typeset@protect` that is equal to `\relax`).

```

1866 \def\HyPsd@CheckCatcodes#1#2\HyPsd@end{%
1867   \global\let\HyPsd@Rest\relax
1868   \ifcat\relax\noexpand#1\relax
1869     \ifx#1\protect
1870       \else
1871         \ifx#1\penalty
1872           \setbox\z@=\hbox{%
1873             \afterassignment\HyPsd@AfterCountRemove
1874             \count@=#2\HyPsd@end
1875           }%
1876         \else
1877           \ifx#1\kern
1878             \setbox\z@=\hbox{%
1879               \afterassignment\HyPsd@AfterDimenRemove
1880               \dimen@=#2\HyPsd@end
1881             }%
1882           \else
1883             \ifx#1\hskip
1884               \setbox\z@=\hbox{%
1885                 \afterassignment\HyPsd@AfterSkipRemove
1886                 \skip@=#2\HyPsd@end
1887               }%
1888             \else
1889               \HyPsd@CatcodeWarning{#1}%
1890             \fi
1891           \fi
1892         \fi
1893       \fi
1894     \else
1895       \ifcat#1A% letter
1896         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1897           \HyPsd@String#1%
1898         }%
1899       \else
1900         \ifcat#1 % SPACE
1901           \expandafter\def\expandafter\HyPsd@String\expandafter{%
1902             \HyPsd@String\HyPsd@SPACEOPTI
1903           }%
1904         \else
1905           \ifcat$#1%
1906             \HyPsd@CatcodeWarning{math shift}%
1907           \else
1908             \ifcat&#1%
1909               \HyPsd@CatcodeWarning{alignment tab}%
1910             \else
1911               \ifcat^#1%
1912                 \HyPsd@CatcodeWarning{superscript}%
1913               \else
1914                 \ifcat_#1%
1915                   \HyPsd@CatcodeWarning{subscript}%

```



```

1916         \else
1917         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1918         \HyPsd@String#1%
1919         }%
1920     \fi
1921 \fi
1922 \fi
1923 \fi
1924 \fi
1925 \fi
1926 \fi
1927 \ifx\HyPsd@Rest\relax
1928 \ifx\scrollmode#2\scrollmode
1929 \else
1930 \Hy@ReturnAfterFiFiEnd{%
1931 \HyPsd@CheckCatcodes#2\HyPsd@End
1932 }%
1933 \fi
1934 \else
1935 \ifx\HyPsd@Rest\@empty
1936 \else
1937 \Hy@ReturnAfterFiFiEnd{%
1938 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1939 }%
1940 \fi
1941 \fi
1942 \Hy@ReturnEnd
1943 }

```

#### Remove counts, dimens, skips.

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

```

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

```

**\HyPsd@AfterDimenRemove** If the value of the `dimen` (`\kern`) is zero, it can be removed silently. All other values are difficult to interpret. Negative values do not work in bookmarks. Should positive values be removed or should they be replaced by space(s)? The following code replaces positive values greater than `1ex` with a space and removes them else.

```

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

```

**\HyPsd@AfterSkipRemove** The glue part of skips do not work in PDF strings and are ignored. Skips (`\hskip`), that are not zero, have the same interpreting problems like `dimens` (see above).

```

1959 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1960 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %

```

```

1961 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1962 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1963 \else
1964 \ifdim\skip@=\z@
1965 \else
1966 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1967 \fi
1968 \gdef\HyPsd@Rest{#1}%
1969 \fi
1970 }

```

### Catcode warnings.

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

```

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

```

\HyPsd@RemoveSpaceWarning

```

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

```

\HyPsd@ReplaceSpaceWarning

```

2005 \def\HyPsd@ReplaceSpaceWarning#1{%
2006 \HyPsd@Warning{%
2007 Token not allowed in a PDF string (%)
2008 \ifHy@unicode
2009 Unicode%

```

```

2010 \else
2011 PDFDocEncoding%
2012 \fi
2013 ):%
2014 \MessageBreak #1\MessageBreak
2015 replaced by space%
2016 }%
2017 }

```

### 6.6.5 Check for wrong glyphs

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

```

2018 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2019 \expandafter\def\expandafter\HyPsd@String\expandafter{%
2020 \HyPsd@String#1%
2021 }%
2022 \ifx\#2\%
2023 \else
2024 \ltx@ReturnAfterFi{%
2025 \HyPsd@GlyphProcessWarning#2\@empty
2026 }%
2027 \fi
2028 }
2029 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2030 \HyPsd@@@GlyphProcessWarning#1++>%
2031 \HyPsd@GlyphProcess#2\@empty
2032 }
2033 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
2034 \ifx\#2\%
2035 \HyPsd@Warning{%
2036 Glyph not defined in %
2037 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2038 removing '@backslashchar#1'%
2039 }%
2040 \else
2041 \HyPsd@Warning{%
2042 Composite letter '@backslashchar#1+#2'\MessageBreak
2043 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2044 \MessageBreak
2045 removing '@backslashchar#1'%
2046 }%
2047 \fi
2048 }

```

### Spaces.

`\HyPsd@spaceopti` In the string the spaces are represented by `\HyPsd@spaceopti` tokens. Within an `\edef` it prints itself as a simple space and looks for its next argument. If another space follows, so it replaces the next `\HyPsd@spaceopti` by an protected space `\040`.

```

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

```

```

2054 \fi
2055 }%

```

### 6.6.6 Replacing tokens

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

```

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

```

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

```

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

```

`\HyPsd@EscapeTeX`

```

2075 \begingroup
2076 \lccode'\!='\%%
2077 \lccode'\|='\%%
2078 \lccode'\(='\{%
2079 \lccode'\)='\}%
2080 \lccode'0=\ltx@zero
2081 \lccode'1=\ltx@zero
2082 \lccode'3=\ltx@zero
2083 \lccode'4=\ltx@zero
2084 \lccode'5=\ltx@zero
2085 \lccode'7=\ltx@zero
2086 \lowercase{\endgroup
2087 \def\HyPsd@EscapeTeX#1{%
2088 \HyPsd@Subst!{|045}#1%
2089 \HyPsd@Subst({|173}#1%
2090 \HyPsd@Subst){|175}#1%
2091 }%
2092 }

```

### 6.6.7 Support for package `xspace`

`\HyPsd@doboxspace` `\xspace` does not work, because it uses a `\futurelet` that cannot be executed in TeX's mouth. So this implementation uses an argument to examine the next token. In a previous version I reused `\@xspace`, but this version is shorter and easier to understand.

```

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

### 6.6.8 Converting to Unicode

Eight bit characters are converted to the sixteen bit ones, `\8` is replaced by `\00`, and `\9` is removed. The result should be a valid Unicode PDF string without the Unicode marker at the beginning.

```

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

`\HyPsd@ConvertToUnicode`

```

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

`\HyPsd@DoConvert`

```

2132 |gdef|HyPsd@DoConvert#1{%
2133   |ifx#1|@empty
```

```

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

```

\HyPsd@DoEscape

```

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

```

\HyPsd@GetTwoBytes

```

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

```

\HyPsd@GetOneByte

```

2165 |gdef|HyPsd@GetOneByte#1#2{%
2166 #1#2%
2167 |HyPsd@DoConvert
2168 }%
2169 |endgroup

```

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

```

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

```

\HyPsd@Char

```

2174 \begingroup
2175 \catcode0=9 %
2176 \catcode'\^=7 %
2177 \catcode'\^^=12 %
2178 \def\x{^^^^0000}%
2179 \expandafter\endgroup

```

```

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

```

## 6.6.9 Support for UTF-8 input encoding

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

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

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

```

2221 \begingroup\expandafter\expandafter\expandafter\endgroup
2222 \expandafter\ifx\csname numexpr\endcsname\relax

```

```

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

```

The two octet form of UTF-8 110aaabb (A) and 10ccdd (B) must be converted into octal numbers 00a and bcd. The result is \8a\bcd (with a, b, c, d as octal numbers). The conversion equations.

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

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

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

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

$$(5)$$

```

2242 \def\HyPsd@UTFviii@two#1#2{%
2243 \expandafter\HyPsd@UTFviii@@two
2244 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2245 \number'#1\expandafter| %
2246 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2247 \number'#2 \@nil
2248 }%
2249 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2250 \expandafter\8%
2251 \number\numexpr #1-48\expandafter\relax
2252 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2253 \number\numexpr #3-8*%
2254 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2255 \number\numexpr #4-8*#3\relax
2256 }%

```

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

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

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

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

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

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

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

$$(12)$$



```

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

```

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

```

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

```

```

2276 \def\HyPsd@UTFviii@four#1#2{%
2277 \expandafter\HyPsd@@UTFviii@four\number
2278 \dimexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2279 \expandafter|\number
2280 \dimexpr'#2-16*\dimexpr.0625\dimexpr'#2sp|
2281 }%
2282 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2283 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2284 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2285 \ifodd#2 %
2286 \number\dimexpr(#2-1)/2\relax
2287 \else
2288 \number\dimexpr#2/2\relax
2289 \fi
2290 \number\dimexpr\ifodd#2 4+\fi
2291 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2292 \933%
2293 \expandafter\HyPsd@@@UTFviii@four\number
2294 \dimexpr'#3-16*\dimexpr.0625\dimexpr'#3sp|
2295 }%
2296 \def\HyPsd@@@UTFviii@four#1|#2{%
2297 \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2298 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2299 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2300 \number\dimexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2301 }%

```

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

```

2302 \def\HyPsd@unichar#1{%
2303 \ifHy@unicode

```

```

2304 \ifnum#1>"10FFFF %
2305 \HyPsd@UnicodeReplacementCharacter % illegal
2306 \else
2307 \ifnum#1>"FFFF %

```

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

```

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

```

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

```

2313 \expandafter\HyPsd@unichar\expandafter{%
2314 \number\numexpr#1-9216%
2315 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2316 \relax\relax\relax
2317 }%
2318 \else
2319 \ifnum#1>"7FFF %
2320 \9%
2321 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2322 \number
2323 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2324 }%
2325 \else
2326 \8%
2327 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2328 \fi
2329 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2330 \number
2331 \numexpr#1-256*\number
2332 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2333 }%
2334 \fi
2335 \fi
2336 \else
2337 .% unsupported (Unicode -> PDF Doc Encoding)
2338 \fi
2339 }%
2340 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2341 \def\HyPsd@unichar@first@byte#1{%
2342 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2343 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2344 \number
2345 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2346 \relax\relax\relax
2347 }%
2348 }%
2349 \def\HyPsd@unichar@second@byte#1{%
2350 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2351 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2352 \number
2353 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2354 \relax\relax\relax
2355 }%
2356 }%
2357 \def\HyPsd@unichar@octtwo#1{%

```

```

2358 \number\dimexpr.125\dimexpr#1sp\relax\relax
2359 \number\dimexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2360 \relax\relax\relax
2361 }%
2362 \fi

```

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

```

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

```

### 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`.

```

2371 \def\HyPsd@DieFace#1{%
2372 \ifHy@unicode
2373 \ifnum#1<1 %
2374 \HyPsd@UnicodeReplacementCharacter
2375 \else
2376 \ifnum#1>6 %
2377 \9046\205%
2378 \expandafter\expandafter\expandafter
2379 \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2380 \else
2381 \9046\20\intcalcDec{#1}%
2382 \fi
2383 \fi
2384 \else
2385 .% Die faces are not part of PDFDocEncoding
2386 \fi
2387 }

```

`\HyPsd@DieFaceLarge`

```

2388 \def\HyPsd@DieFaceLarge#1!{%
2389 \ifnum#1>6 %
2390 \expandafter\ltx@firstoftwo
2391 \else
2392 \expandafter\ltx@secondoftwo
2393 \fi
2394 {%
2395 \9046\205%
2396 \expandafter\expandafter\expandafter

```

```

2397 \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2398 }{%
2399 \9046\20\IntCalcDec#1!%
2400 }%
2401 }

```

### 6.6.11 Support for moon phases of package china2e

```

2402 \def\HyPsd@MoonPha#1{%
2403 \ifcase\intcalcNum{#1} %
2404 \HyPsd@UnicodeReplacementCharacter
2405 \or % 1
2406 % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2407 \9330\074\9337\032%
2408 \or % 2
2409 \HyPsd@UnicodeReplacementCharacter
2410 \or % 3
2411 % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2412 \9330\074\9337\035%
2413 \or % 4
2414 % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2415 \9330\074\9337\034%
2416 \else
2417 \HyPsd@UnicodeReplacementCharacter
2418 \fi
2419 }
2420 %* \HyPsd@MoonPha -> \MoonPha

```

### 6.6.12 Support for package pifont

\HyPsd@ding

```

2421 \def\HyPsd@ding#1{%
2422 \ifHy@unicode
2423 \ifnum#1<32 %
2424 \HyPsd@UnicodeReplacementCharacter
2425 \else
2426 \ifnum#1>254 %
2427 \HyPsd@UnicodeReplacementCharacter
2428 \else
2429 \ifnum#1<127 %
2430 \expandafter\expandafter\expandafter
2431 \HyPsd@@ding\intcalcNum{#1}!%
2432 \else
2433 \ifnum#1>160 %
2434 \expandafter\expandafter\expandafter
2435 \HyPsd@@ding\intcalcNum{#1}!%
2436 \else
2437 \HyPsd@UnicodeReplacementCharacter
2438 \fi
2439 \fi
2440 \fi
2441 \fi
2442 \else
2443 .% Dingbats are not part of PDFDocEncoding
2444 \fi
2445 }

```

\HyPsd@@ding

```

2446 \def\HyPsd@@ding#1!{%
2447 \ltx@ifundefined{HyPsd@ding@#1}{%
2448 \ifnum#1<127 %
2449 \9047%
2450 \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2451 \else
2452 \ifnum#1<168 %
2453 \9047\14\IntCalcSub#1!160!%
2454 \else
2455 \ifnum#1>181 %
2456 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2457 \else
2458 % 172..181 -> U+2460..U+2469
2459 \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2460 \fi
2461 \fi
2462 \fi
2463 }{%
2464 \csname HyPsd@ding@#1\endcsname
2465 }%
2466 }

2467 \@namedef{HyPsd@ding@32}{\space}
2468 % U+260E BLACK TELEPHONE
2469 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2470 % U+261B BLACK RIGHT POINTING INDEX
2471 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2472 % U+261E WHITE RIGHT POINTING INDEX
2473 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2474 % U+2605 BLACK STAR
2475 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2476 % U+25CF BLACK CIRCLE
2477 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2478 % U+25A0 BLACK SQUARE
2479 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2480 % U+25B2 BLACK UP-POINTING TRIANGLE
2481 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2482 % U+25BC BLACK DOWN-POINTING TRIANGLE
2483 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2484 % U+25C6 BLACK DIAMOND
2485 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2486 % U+25D7 RIGHT HALF BLACK CIRCLE
2487 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2488 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2489 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2490 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2491 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2492 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2493 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2494 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2495 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

## 7 Support of other packages

### 7.1 Class memoir

```

2496 \@ifclassloaded{memoir}{%

```

```

2497 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}}%
2498 }{}

```

## 7.2 Package subfigure

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

```

2499 \ifpackageloaded{subfigure}{%
2500 \ltx@ifundefined{sub@label}{%
2501 \Hy@hypertexnamesfalse
2502 }{%
2503 \renewcommand*{\sub@label}[1]{%
2504 \@bsphack
2505 \subfig@oldlabel{#1}%
2506 \if@filesw
2507 \begingroup
2508 \edef\@currentlabstr{%
2509 \expandafter\strip@prefix\meaning\@currentlabelname
2510 }%
2511 \protected@write\@auxout{}{%
2512 \string\newlabel{sub@#1}{%
2513 {\@nameuse{@@thesub}\@capytype}}%
2514 {\thepage}%
2515 {%
2516 \expandafter\strip@period\@currentlabstr
2517 \relax.\relax\@@@%
2518 }%
2519 {\@currentHref}%
2520 }%
2521 }%
2522 }%
2523 \endgroup
2524 \fi
2525 \@esphack
2526 }%
2527 \@ifpackagelater{subfigure}{2002/03/26}{%
2528 \providecommand*\toclevel@subfigure{1}%
2529 \providecommand*\toclevel@subtable{1}%
2530 }%
2531 }%
2532 }{}

```

## 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:

```

2533 \ltx@ifundefined{XR@addURL}{%
2534 }{}

```

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.

```

2535 \def\xr@addURL#1{\xr@@dURL#1{}{}{}%
2536 \def\xr@@dURL#1#2#3#4#5\{%
2537 {#1}{#2}%
2538 \if!#4!%
2539 \else
2540 {#3}{#4}{\xr@URL}%
2541 \fi
2542 }%

```

```

2543 }
2544 \def\Hy@true{true}
2545 \def\Hy@false{false}

    Providing dummy definitions.
2546 \let\literalps@out\@gobble
2547 \newcommand\pdfbookmark[3][]{ }
2548 \def\Acrobatmenu#1#2{\leavevmode#2}
2549 \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

```

2550 \let\HyperRaiseLinkHook\@empty
2551 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2552 \newcount\Hy@SavedSpaceFactor
2553 \def\Hy@SaveSpaceFactor{%
2554   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2555 }
2556 \def\Hy@RestoreSpaceFactor{%
2557   \relax
2558   \ifhmode
2559     \ifnum\Hy@SavedSpaceFactor>\z@
2560       \spacefactor=\Hy@SavedSpaceFactor
2561     \fi
2562   \fi
2563 }
2564 \def\Hy@SaveSavedSpaceFactor{%
2565   \edef\Hy@RestoreSavedSpaceFactor{%
2566     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2567   }%
2568 }
2569 \def\Hy@raisedlink#1{%
2570   \ifvmode
2571     #1%
2572   \else
2573     \Hy@SaveSpaceFactor
2574     \penalty\@M
2575     \smash{%
2576       \begingroup
2577         \let\HyperRaiseLinkLength\@tempdima
2578         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2579         \HyperRaiseLinkHook

```

```

2580 \expandafter\endgroup
2581 \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2582 \Hy@RestoreSpaceFactor
2583 #1%
2584 \Hy@SaveSpaceFactor
2585 }%
2586 }%
2587 \Hy@RestoreSpaceFactor
2588 \fi
2589 }

```

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

```

2590 \def\Hy@SaveLastskip{%
2591 \let\Hy@RestoreLastskip\relax
2592 \ifvmode
2593 \ifdim\lastskip=\z@
2594 \let\Hy@RestoreLastskip\nobreak
2595 \else
2596 \begingroup
2597 \skip@=-\lastskip
2598 \edef\x{%
2599 \endgroup
2600 \def\noexpand\Hy@RestoreLastskip{%
2601 \noexpand\ifvmode
2602 \noexpand\nobreak
2603 \vskip\the\skip@
2604 \vskip\the\lastskip\relax
2605 \noexpand\fi
2606 }%
2607 }%
2608 \x
2609 \fi
2610 \else
2611 \ifhmode
2612 \ifdim\lastskip=\z@
2613 \let\Hy@RestoreLastskip\nobreak
2614 \else
2615 \begingroup
2616 \skip@=-\lastskip
2617 \edef\x{%
2618 \endgroup
2619 \def\noexpand\Hy@RestoreLastskip{%
2620 \noexpand\ifhmode
2621 \noexpand\nobreak
2622 \hskip\the\skip@
2623 \hskip\the\lastskip\relax
2624 \noexpand\fi
2625 }%
2626 }%
2627 \x
2628 \fi
2629 \fi
2630 \fi
2631 }%

```



## 9 Options

```

2632 \SetupKeyvalOptions{%
2633   family=Hyp,%
2634   prefix=HyOpt%
2635 }

```

### 9.1 Help macros

\IfHyperBooleanExists

```

2636 \def\IfHyperBooleanExists#1{%
2637   \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2638     \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2639   }%
2640 }

2641 \@namedef{KV@Hyp@stoppeearly@default}{}

```

\IfHyperBoolean

```

2642 \def\IfHyperBoolean#1{%
2643   \IfHyperBooleanExists{#1}{%
2644     \csname ifHy@#1\endcsname
2645     \expandafter\ltx@firstoftwo
2646   \else
2647     \expandafter\ltx@secondoftwo
2648   \fi
2649 } \ltx@secondoftwo
2650 }

```

\Hy@boolkey

```

2651 \def\Hy@boolkey#1#2{%
2652   \edef\Hy@tempa{#2}%
2653   \lowercase\expandafter{%
2654     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2655   }%
2656   \ifx\Hy@tempa\@empty
2657     \let\Hy@tempa\Hy@true
2658   \fi
2659   \ifx\Hy@tempa\Hy@true
2660   \else
2661     \ifx\Hy@tempa\Hy@false
2662     \else
2663       \let\Hy@tempa\relax
2664     \fi
2665   \fi
2666   \ifx\Hy@tempa\relax
2667     \Hy@WarnOptionValue{#2}{#1}{‘true’ or ‘false’}%
2668   \else
2669     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2670     \csname Hy@#1\Hy@tempa\endcsname
2671   \fi
2672 }

```

\Hy@WarnOptionValue

```

2673 \def\Hy@WarnOptionValue#1#2#3{%
2674   \Hy@Warning{%
2675     Unexpected value ‘#1’\MessageBreak
2676     of option ‘#2’ instead of\MessageBreak

```

```

2677   #3%
2678 }%
2679 }

```

`\Hy@DisableOption`

```

2680 \def\Hy@DisableOption#1{%
2681   \ltx@ifundefined{KV@Hyp@#1@default}{%
2682     \define@key{Hyp}{#1}%
2683   }{%
2684     \define@key{Hyp}{#1}[]%
2685   }%
2686   {\Hy@WarnOptionDisabled{#1}}%
2687 }

```

`\Hy@WarnOptionDisabled`

```

2688 \def\Hy@WarnOptionDisabled#1{%
2689   \Hy@Warning{%
2690     Option ‘#1’ has already been used,\MessageBreak
2691     setting the option has no effect%
2692   }%
2693 }

```

`\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`.

```

2694 \def\Hy@CheckOptionValue#1#2#3{%
2695   \begingroup
2696   \edef\x{#1}%
2697   \@onelevel@sanitize\x
2698   \let\y=y%
2699   \def\do##1##2{%
2700     \def\z{##1}%
2701     \@onelevel@sanitize\z
2702     \ifx\x\z
2703       \let\y=n%
2704       \let\do\@gobbletwo
2705     \fi
2706   }%
2707   #3%
2708   \ifx\y y%
2709     \def\do##1##2{%
2710       * ‘##1’%
2711       \ifx\##2\\\else\space(##2)\fi
2712       \MessageBreak
2713     }%
2714     \Hy@Warning{%
2715       Values of option ‘#2’:\MessageBreak
2716       #3%
2717       * An empty value disables the option.\MessageBreak
2718       Unknown value ‘\x’%
2719     }%
2720   \fi
2721 \endgroup
2722 }

```

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

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

```

2723 \def\Hy@DefNameKey#1{%
2724   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2725 }

```

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

```

2726 \def\Hy@@DefNameKey#1#2#3{%
2727   \define@key{Hyp}{#2}{%
2728     \edef#1{##1}%
2729     \ifx#1\@empty
2730       \else
2731         \Hy@CheckOptionValue{##1}{#2}{#3}%
2732       \fi
2733   }%
2734   \let#1\@empty
2735 }

```

\Hy@UseNameKey

```

2736 \def\Hy@UseNameKey#1#2{%
2737   \ifx#2\@empty
2738     \else
2739       /#1/#2%
2740     \fi
2741 }

```

## 9.2 Defining the options

```

2742 \define@key{Hyp}{implicit}[true]{%
2743   \Hy@boolkey{implicit}{#1}%
2744 }
2745 \define@key{Hyp}{draft}[true]{%
2746   \Hy@boolkey{draft}{#1}%
2747 }
2748 \define@key{Hyp}{final}[true]{%
2749   \Hy@boolkey{final}{#1}%
2750 }
2751 \let\KV@Hyp@nolinks\KV@Hyp@draft
2752 \def\Hy@ObsoletePaperOption#1{%
2753   \Hy@WarningNoLine{%
2754     Option ‘#1’ is no longer used%
2755   }%
2756   \define@key{Hyp}{#1}[true]{}%
2757 }
2758 \def\Hy@temp#1{%
2759   \define@key{Hyp}{#1}[true]{%
2760     \Hy@ObsoletePaperOption{#1}%
2761   }%
2762 }
2763 \Hy@temp{a4paper}
2764 \Hy@temp{a5paper}
2765 \Hy@temp{b5paper}
2766 \Hy@temp{letterpaper}
2767 \Hy@temp{legalpaper}
2768 \Hy@temp{executivepaper}
2769 \define@key{Hyp}{setpagesize}[true]{%

```

```

2770 \Hy@boolkey{setpagesize}{#1}%
2771 }
2772 \define@key{Hyp}{debug}[true]{%
2773 \Hy@boolkey{debug}{#1}%
2774 }
2775 \define@key{Hyp}{linktocpage}[true]{%
2776 \Hy@boolkey{linktocpage}{#1}%
2777 \ifHy@linktocpage
2778 \let\Hy@linktoc\Hy@linktoc@page
2779 \else
2780 \let\Hy@linktoc\Hy@linktoc@section
2781 \fi
2782 }
2783 \chardef\Hy@linktoc@none=0 %
2784 \chardef\Hy@linktoc@section=1 %
2785 \chardef\Hy@linktoc@page=2 %
2786 \chardef\Hy@linktoc@all=3 %
2787 \ifHy@linktocpage
2788 \let\Hy@linktoc\Hy@linktoc@page
2789 \else
2790 \let\Hy@linktoc\Hy@linktoc@section
2791 \fi
2792 \define@key{Hyp}{linktoc}{%
2793 \@ifundefined{Hy@linktoc@#1}{%
2794 \Hy@Warning{%
2795 Unexpected value '#1' of\MessageBreak
2796 option 'linktoc' instead of 'none',\MessageBreak
2797 'section', 'page' or 'all'%
2798 }%
2799 }{%
2800 \expandafter\let\expandafter\Hy@linktoc
2801 \csname Hy@linktoc@#1\endcsname
2802 }%
2803 }
2804 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2805 \let\XR@ext\relax
2806 \define@key{Hyp}{verbose}[true]{%
2807 \Hy@boolkey{verbose}{#1}%
2808 }
2809 \define@key{Hyp}{typexml}[true]{%
2810 \Hy@boolkey{typexml}{#1}%
2811 }

```

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.

```

2812 \define@key{Hyp}{raiselinks}[true]{%
2813 \Hy@boolkey{raiselinks}{#1}%
2814 }

```

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

```

2815 \def\Hy@setbreaklinks#1{%
2816 \csname breaklinks#1\endcsname
2817 }
2818 \def\Hy@breaklinks@unsupported{%
2819 \ifx\Hy@setbreaklinks\@gobble
2820 \ifHy@breaklinks

```

```

2821 \Hy@WarningNoLine{%
2822   You have enabled option 'breaklinks'.\MessageBreak
2823   But driver '\Hy@driver.def' does not support this.\MessageBreak
2824   Expect trouble with the link areas of broken links%
2825 }%
2826 \fi
2827 \fi
2828 }

2829 \define@key{Hyp}{breaklinks}[true]{%
2830 \Hy@boolkey{breaklinks}{#1}%
2831 \let\Hy@setbreaklinks\@gobble
2832 }

2833 \define@key{Hyp}{localanchorname}[true]{%
2834 \Hy@boolkey{localanchorname}{#1}%
2835 }

Determines whether an automatic anchor is put on each page
2836 \define@key{Hyp}{pageanchor}[true]{%
2837 \Hy@boolkey{pageanchor}{#1}%
2838 }

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

Are the names for anchors made as per the HyperTeX system, or do they simply
use what LATEX provides?
2842 \define@key{Hyp}{naturalnames}[true]{%
2843 \Hy@boolkey{naturalnames}{#1}%
2844 }

Completely ignore the names as per the HyperTeX system, and use unique coun-
ters.
2845 \define@key{Hyp}{hypertexnames}[true]{%
2846 \Hy@boolkey{hypertexnames}{#1}%
2847 }

Currently, dvips doesn't allow anchors nested within targets, so this option tries
to stop that happening. Other processors may be able to cope.
2848 \define@key{Hyp}{nesting}[true]{%
2849 \Hy@boolkey{nesting}{#1}%
2850 }

2851 \define@key{Hyp}{unicode}[true]{%
2852 \Hy@boolkey{unicode}{#1}%
2853 \ifHy@unicode
2854 \def\HyPsd@pdfencoding{unicode}%
2855 \HyPsd@LoadUnicode
2856 \else
2857 \def\HyPsd@pdfencoding{pdfdoc}%
2858 \fi
2859 }

2860 \Hy@AtBeginDocument{%
2861 \ifx\HyPsd@LoadUnicode\relax
2862 \else
2863 \def\HyPsd@LoadUnicode{%
2864 \Hy@Error{%
2865   Unicode support for bookmarks is not available.\MessageBreak

```

```

2866     Activate unicode support by using one of the options\MessageBreak
2867     'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2868     in the preamble%
2869 } \@ehc
2870 \global\let\HyPsd@LoadUnicode\relax
2871 \global\Hy@unicodedefalse
2872 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2873 }%
2874 \fi
2875 }

2876 \define@key{Hyp}{pdfencoding}{%
2877   \edef\HyPsd@temp{#1}%
2878   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2879     \let\HyPsd@pdfencoding\HyPsd@temp
2880     \Hy@unicodedefalse
2881   \else
2882     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2883       \z@
2884     \else
2885       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2886         \z@
2887       \else
2888         \@ne
2889       \fi
2890     \fi
2891     \let\HyPsd@pdfencoding\HyPsd@temp
2892     \hypersetup{unicode}%
2893     \ifHy@unicode
2894       \def\HyPsd@pdfencoding{#1}%
2895       \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2896         \HyPsd@LoadStringEncoding
2897       \fi
2898     \else
2899       \Hy@Warning{Cannot switch to unicode bookmarks}%
2900       \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2901     \fi
2902   \else
2903     \@onelevel@sanitize\HyPsd@temp
2904     \Hy@Warning{%
2905       Values of option 'pdfencoding':\MessageBreak
2906       'pdfdoc', 'unicode', 'auto'.\MessageBreak
2907       Ignoring unknown value '\HyPsd@temp'%
2908     }%
2909   \fi
2910 \fi
2911 }

2912 \def\HyPsd@pdfencoding@auto{auto}
2913 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2914 \def\HyPsd@pdfencoding@unicode{unicode}
2915 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2916 \def\HyPsd@LoadStringEncoding{%
2917   \RequirePackage{stringenc}[2009/12/15]%
2918   \let\HyPsd@LoadStringEncoding\relax
2919 }

2920 \Hy@AtBeginDocument{%
2921   \@ifpackageloaded{stringenc}{%
2922     \let\HyPsd@LoadStringEncoding\relax

```

```

2923 }{%
2924   \def\HyPsd@LoadStringEnc{%
2925     \Hy@WarningNoLine{%
2926       Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2927       in the preamble or load the package there%
2928     }%
2929   }%
2930 }%
2931 }

2932 \define@key{Hyp}{psdextra}[true]{%
2933   \Hy@boolkey{psdextra}{#1}%
2934 }

2935 \def\hypersetup{\kvsetkeys{Hyp}}

2936 \newif\ifHy@setpdfversion
2937 \define@key{Hyp}{pdfversion}{%
2938   \@ifundefined{Hy@pdfversion@#1}{%
2939     \PackageWarning{hyperref}{%
2940       Unsupported PDF version '#1'.\MessageBreak
2941       Valid values: 1.2 until 1.9%
2942     }%
2943   }{%
2944     \Hy@setpdfversiontrue
2945     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2946   }%
2947 }

2948 \@namedef{Hy@pdfversion@1.2}{2}%
2949 \@namedef{Hy@pdfversion@1.3}{3}%
2950 \@namedef{Hy@pdfversion@1.4}{4}%
2951 \@namedef{Hy@pdfversion@1.5}{5}%
2952 \@namedef{Hy@pdfversion@1.6}{6}%
2953 \@namedef{Hy@pdfversion@1.7}{7}%
2954 \@namedef{Hy@pdfversion@1.8}{8}%
2955 \@namedef{Hy@pdfversion@1.9}{9}%
2956 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

2957 \newif\ifHy@DviMode
2958 \let\Hy@DviErrMsg\ltx@empty
2959 \ifpdf
2960   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2961 \else
2962   \ifxetex
2963     \def\Hy@DviErrMsg{XeTeX is running}%
2964   \else
2965     \ifvtex
2966       \ifvtexdvi
2967         \Hy@DviModetrue
2968       \else
2969         \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2970       \fi
2971     \else
2972       \Hy@DviModetrue
2973     \fi
2974   \fi
2975 \fi

```

```

2976 \def\HyOpt@CheckDvi#1{%
2977   \ifHy@DviMode
2978     \expandafter\ltx@firstofone
2979   \else
2980     \Hy@Error{%
2981       Wrong DVI mode driver option '#1',\MessageBreak
2982       because \Hy@DviErrMsg
2983     }\@ehc
2984     \expandafter\ltx@gobble
2985   \fi
2986 }

2987 \DeclareVoidOption{tex4ht}{%
2988   \Hy@texhttrue
2989   \kvsetkeys{Hyp}{colorlinks=true}%
2990   \def\BeforeTeXIVht{\RequirePackage{color}}}%
2991   \def\Hy@driver{htex4ht}%
2992   \def\MaybeStopEarly{%
2993     \Hy@Message{Stopped early}%
2994     \Hy@AtBeginDocument{%
2995       \PDF@FinishDoc
2996       \gdef\PDF@FinishDoc{}}%
2997   }%
2998   \endinput
2999 }%
3000 }

3001 \DeclareVoidOption{pdftex}{%
3002   \ifpdf
3003     \def\Hy@driver{hpdftex}%
3004   \else
3005     \Hy@Error{%
3006       Wrong driver option 'pdftex',\MessageBreak
3007       because pdfTeX in PDF mode is not detected%
3008     }\@ehc
3009   \fi
3010 }

3011 \DeclareVoidOption{nativepdf}{%
3012   \HyOpt@CheckDvi{nativepdf}{%
3013     \def\Hy@driver{hdvips}%
3014   }%
3015 }

3016 \DeclareVoidOption{dvipdfm}{%
3017   \HyOpt@CheckDvi{dvipdfm}{%
3018     \def\Hy@driver{hdvipdfm}%
3019   }%
3020 }

3021 \DeclareVoidOption{dvipdfmx}{%
3022   \HyOpt@CheckDvi{dvipdfmx}{%
3023     \def\Hy@driver{hdvipdfm}%
3024   }%
3025 }

3026 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
3027   \expandafter\ifx\csname if#1\expandafter\endcsname
3028     \csname iftrue\endcsname
3029   \chardef\SpecialDvipdfmxOutlineOpen\@ne
3030 \else
3031   \chardef\SpecialDvipdfmxOutlineOpen\z@
3032 \fi

```



```

3033 }
3034 \DeclareVoidOption{xetex}{%
3035   \ifxetex
3036     \def\Hy@driver{hxtex}%
3037   \else
3038     \Hy@Error{%
3039       Wrong driver option 'xetex',\MessageBreak
3040       because XeTeX is not detected%
3041     }\@ehc
3042   \fi
3043 }
3044 \DeclareVoidOption{pdfmark}{%
3045   \HyOpt@CheckDvi{pdfmark}{%
3046     \def\Hy@driver{hdvips}%
3047   }%
3048 }
3049 \DeclareVoidOption{dvips}{%
3050   \HyOpt@CheckDvi{dvips}{%
3051     \def\Hy@driver{hdvips}%
3052   }%
3053 }
3054 \DeclareVoidOption{hypertex}{%
3055   \HyOpt@CheckDvi{hypertex}{%
3056     \def\Hy@driver{hypertex}%
3057   }%
3058 }
3059 \let\Hy@MaybeStopNow\relax
3060 \DeclareVoidOption{vtex}{%
3061   \ifvtex
3062     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3063     \def\Hy@driver{hvtex}%
3064   \else
3065     \ifnum\OpMode=10\relax
3066       \def\Hy@driver{hvtexhtm}%
3067       \def\MaybeStopEarly{%
3068         \Hy@Message{Stopped early}%
3069         \Hy@AtBeginDocument{%
3070           \PDF@FinishDoc
3071           \gdef\PDF@FinishDoc{}%
3072         }%
3073       \endinput
3074     }%
3075   \else
3076     \Hy@Error{%
3077       Wrong driver option 'vtex',\MessageBreak
3078       because of wrong OpMode (\the\OpMode)%
3079     }\@ehc
3080   \fi
3081 }
3082 \else
3083   \Hy@Error{%
3084     Wrong driver option 'vtex',\MessageBreak
3085     because VTeX is not running%
3086   }\@ehc
3087 }
3088 }
3089 \DeclareVoidOption{vtexpdfmark}{%

```

```

3090 \ifvtex
3091   \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3092   \def\Hy@driver{hvtexmrk}%
3093   \else
3094     \Hy@Error{%
3095       Wrong driver option 'vtexpdfmark',\MessageBreak
3096       because of wrong OpMode (\the\OpMode)%
3097     }\@ehc
3098   \fi
3099 \else
3100   \Hy@Error{%
3101     Wrong driver option 'vtexpdfmark',\MessageBreak
3102     because VTeX is not running%
3103   }\@ehc
3104 \fi
3105 }
3106 \DeclareVoidOption{dviwindo}{}%
3107 \HyOpt@CheckDvi{dviwindo}{}%
3108 \def\Hy@driver{hdviwind}%
3109 \kvsetkeys{Hyp}{colorlinks}%
3110 \PassOptionsToPackage{dviwindo}{color}%
3111 }%
3112 }
3113 \DeclareVoidOption{dvipsone}{}%
3114 \HyOpt@CheckDvi{dvipsone}{}%
3115 \def\Hy@driver{hdvipson}%
3116 }%
3117 }
3118 \DeclareVoidOption{textures}{}%
3119 \HyOpt@CheckDvi{textures}{}%
3120 \def\Hy@driver{htexture}%
3121 }%
3122 }
3123 \DeclareVoidOption{latex2html}{}%
3124 \HyOpt@CheckDvi{latex2html}{}%
3125 \Hy@AtBeginDocument{\@@@latextohtmlX}%
3126 }%
3127 }

```

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

```

3128 \DeclareVoidOption{ps2pdf}{}%
3129 \HyOpt@CheckDvi{ps2pdf}{}%
3130 \def\Hy@driver{hdvips}%
3131 }%
3132 }
3133 \let\HyOpt@DriverFallback\ltx@empty
3134 \define@key{Hyp}{driverfallback}{}%
3135 \ifHy@DviMode
3136   \def\HyOpt@DriverFallback{#1}%
3137   \Hy@Match\HyOpt@DriverFallback{%
3138     ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3139     latex2html|tex4ht)$%
3140   }{}{%
3141     \let\HyOpt@DriverFallback\ltx@empty
3142   }%
3143 \fi
3144 }

```

## 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.

```
3145 \define@key{Hyp}{hyperfigures}[true]{%
3146   \Hy@boolkey{hyperfigures}{#1}%
3147 }
```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
3148 \define@key{Hyp}{hyperfootnotes}[true]{%
3149   \Hy@boolkey{hyperfootnotes}{#1}%
3150 }
```

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

```
3151 \def\back@none{none}
3152 \def\back@section{section}
3153 \def\back@page{page}
3154 \def\back@slide{slide}
3155 \define@key{Hyp}{backref}[section]{%
3156   \lowercase{\def\Hy@tempa{#1}}%
3157   \ifx\Hy@tempa\@empty
3158     \let\Hy@tempa\back@section
3159   \fi
3160   \ifx\Hy@tempa\Hy@false
3161     \let\Hy@tempa\back@none
3162   \fi
3163   \ifx\Hy@tempa\back@slide
3164     \let\Hy@tempa\back@section
3165   \fi
3166   \ifx\Hy@tempa\back@page
3167     \PassOptionsToPackage{hyperpageref}{backref}%
3168     \Hy@backreftrue
3169   \else
3170     \ifx\Hy@tempa\back@section
3171       \PassOptionsToPackage{hyperref}{backref}%
3172       \Hy@backreftrue
3173     \else
3174       \ifx\Hy@tempa\back@none
3175         \Hy@backreffalse
3176       \else
3177         \Hy@WarnOptionValue{#1}{backref}{%
3178           'section', 'slide', 'page', 'none',\MessageBreak
3179           or 'false'}%
3180       \fi
3181     \fi
3182   \fi
3183 }
3184 \define@key{Hyp}{pagebackref}[true]{%
3185   \edef\Hy@tempa{#1}%
3186   \lowercase\expandafter{%
3187     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3188   }%
3189   \ifx\Hy@tempa\@empty
3190     \let\Hy@tempa\Hy@true
3191   \fi
3192   \ifx\Hy@tempa\Hy@true
3193     \PassOptionsToPackage{hyperpageref}{backref}%
3194     \Hy@backreftrue
```

```

3195 \else
3196   \ifx\Hy@tempa\Hy@false
3197     \Hy@backreffalse
3198   \else
3199     \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
3200   \fi
3201 \fi
3202 }

```

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

```

3203 \define@key{Hyp}{hyperindex}[true]{%
3204   \Hy@boolkey{hyperindex}{#1}%
3205 }

```

Configuration of encap char.

```

3206 \define@key{Hyp}{encap}[|]{%
3207   \def\HyInd@EncapChar{#1}%
3208 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

3209 \def\HyLang@afrikaans{%
3210   \def\equationautorefname{Vergelyking}%
3211   \def\footnoteautorefname{Voetnota}%
3212   \def\itemautorefname{Item}%
3213   \def\figureautorefname{Figuur}%
3214   \def\tableautorefname{Tabel}%
3215   \def\partautorefname{Deel}%
3216   \def\appendixautorefname{Bylae}%
3217   \def\chapterautorefname{Hoofstuk}%
3218   \def\sectionautorefname{Afdeling}%
3219   \def\subsectionautorefname{Subafdeling}%
3220   \def\subsubsectionautorefname{Subsubafdeling}%
3221   \def\paragraphautorefname{Paragraaf}%
3222   \def\subparagraphautorefname{Subparagraaf}%
3223   \def\FancyVerbLineautorefname{Lyn}%
3224   \def\theoremautorefname{Teorema}%
3225   \def\pageautorefname{Bladsy}%
3226 }
3227 \def\HyLang@english{%
3228   \def\equationautorefname{Equation}%
3229   \def\footnoteautorefname{footnote}%
3230   \def\itemautorefname{item}%
3231   \def\figureautorefname{Figure}%
3232   \def\tableautorefname{Table}%
3233   \def\partautorefname{Part}%
3234   \def\appendixautorefname{Appendix}%
3235   \def\chapterautorefname{chapter}%
3236   \def\sectionautorefname{section}%
3237   \def\subsectionautorefname{subsection}%
3238   \def\subsubsectionautorefname{subsubsection}%
3239   \def\paragraphautorefname{paragraph}%
3240   \def\subparagraphautorefname{subparagraph}%
3241   \def\FancyVerbLineautorefname{line}%
3242   \def\theoremautorefname{Theorem}%

```

```

3243 \def\pageautorefname{page}%
3244 }
3245 \def\HyLang@french{%
3246 \def\equationautorefname{'Equation}%
3247 \def\footnoteautorefname{note}%
3248 \def\itemautorefname{item}%
3249 \def\figureautorefname{Figure}%
3250 \def\tableautorefname{Tableau}%
3251 \def\partautorefname{Partie}%
3252 \def\appendixautorefname{Appendice}%
3253 \def\chapterautorefname{chapitre}%
3254 \def\sectionautorefname{section}%
3255 \def\subsectionautorefname{sous-section}%
3256 \def\subsubsectionautorefname{sous-sous-section}%
3257 \def\paragraphautorefname{paragraphe}%
3258 \def\subparagraphautorefname{sous-paragraphe}%
3259 \def\FancyVerbLineautorefname{ligne}%
3260 \def\theoremautorefname{Th\'eor\'eme}%
3261 \def\pageautorefname{page}%
3262 }
3263 \def\HyLang@german{%
3264 \def\equationautorefname{Gleichung}%
3265 \def\footnoteautorefname{Fu\ss note}%
3266 \def\itemautorefname{Punkt}%
3267 \def\figureautorefname{Abbildung}%
3268 \def\tableautorefname{Tabelle}%
3269 \def\partautorefname{Teil}%
3270 \def\appendixautorefname{Anhang}%
3271 \def\chapterautorefname{Kapitel}%
3272 \def\sectionautorefname{Abschnitt}%
3273 \def\subsectionautorefname{Unterabschnitt}%
3274 \def\subsubsectionautorefname{Unterunterabschnitt}%
3275 \def\paragraphautorefname{Absatz}%
3276 \def\subparagraphautorefname{Unterabsatz}%
3277 \def\FancyVerbLineautorefname{Zeile}%
3278 \def\theoremautorefname{Theorem}%
3279 \def\pageautorefname{Seite}%
3280 }
3281 \def\HyLang@italian{%
3282 \def\equationautorefname{Equazione}%
3283 \def\footnoteautorefname{nota}%
3284 \def\itemautorefname{punto}%
3285 \def\figureautorefname{Figura}%
3286 \def\tableautorefname{Tabella}%
3287 \def\partautorefname{Parte}%
3288 \def\appendixautorefname{Appendice}%
3289 \def\chapterautorefname{Capitolo}%
3290 \def\sectionautorefname{sezione}%
3291 \def\subsectionautorefname{sottosezione}%
3292 \def\subsubsectionautorefname{sottosottosezione}%
3293 \def\paragraphautorefname{paragrafo}%
3294 \def\subparagraphautorefname{sottoparagrafo}%
3295 \def\FancyVerbLineautorefname{linea}%
3296 \def\theoremautorefname{Teorema}%
3297 \def\pageautorefname{Pag.\@}%
3298 }
3299 \def\HyLang@magyar{%

```

```

3300 \def\equationautorefname{Egyenlet}%
3301 \def\footnoteautorefname{l\'abjegyzet}%
3302 \def\itemautorefname{Elem}%
3303 \def\figureautorefname{\'Abra}%
3304 \def\tableautorefname{T\'abl\'azat}%
3305 \def\partautorefname{R\'esz}%
3306 \def\appendixautorefname{F\'uggel\'ek}%
3307 \def\chapterautorefname{fejezet}%
3308 \def\sectionautorefname{szakasz}%
3309 \def\subsectionautorefname{alszakasz}%
3310 \def\subsubsectionautorefname{alalszakasz}%
3311 \def\paragraphautorefname{bekezd\'es}%
3312 \def\subparagraphautorefname{albekezd\'es}%
3313 \def\FancyVerbLineautorefname{sor}%
3314 \def\theoremautorefname{T\'etel}%
3315 \def\pageautorefname{oldal}%
3316 }
3317 \def\HyLang@portuges{%
3318 \def\equationautorefname{Equa\c c\~ao}%
3319 \def\footnoteautorefname{Nota de rodap\'e}%
3320 \def\itemautorefname{Item}%
3321 \def\figureautorefname{Figura}%
3322 \def\tableautorefname{Tabela}%
3323 \def\partautorefname{Parte}%
3324 \def\appendixautorefname{Ap\^endice}%
3325 \def\chapterautorefname{Cap\'itulo}%
3326 \def\sectionautorefname{Se\c c\~ao}%
3327 \def\subsectionautorefname{Subse\c c\~ao}%
3328 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3329 \def\paragraphautorefname{par\'agrafo}%
3330 \def\subparagraphautorefname{subpar\'agrafo}%
3331 \def\FancyVerbLineautorefname{linha}%
3332 \def\theoremautorefname{Teorema}%
3333 \def\pageautorefname{P\'agina}%
3334 }

```

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`.

```

3335 \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`?

```

3336 \def\equationautorefname{\cyr\cyrv\cyrery\cyr.}%

```

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

```

3337 % \def\equationautorefname{%
3338 % \cyr\cyrv\cyrery\cyr\cyra\cyrzh\cyre\cyrn\cyri\cyre
3339 % }%

```

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

obsolete?).

```
3340 \def\footnoteautorefname{%  
3341 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%  
3342 }%
```

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}”

```
3343 % \def\footnoteautorefname{%  
3344 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %  
3345 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre  
3346 % }%
```

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

```
3347 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%  
3348 % \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.

```
3349 \def\itemautorefname{\cyr\cyrp.}%  
3350 % \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.

```
3351 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%  
3352 \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.

```
3353 \def\partautorefname{\cyr\cyrch.}%  
3354 \def\chapterautorefname{\cyr\cyrg\cyrl.}%  
3355 \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.

```
3356 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%  
3357 % \def\appendixautorefname{%  
3358 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre  
3359 % }%
```

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.

```
3360 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%  
3361 \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.

```
3362 \def\paragraphautorefname{\cyr\cyrp.}%  
3363 \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.

3364 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%  
 3365 % \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.

3366 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

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

3367 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%  
 3368 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%

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

3369 % \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 ...

3370 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%

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

3371 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%  
 3372 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%

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

3373 \def\pageautorefname{\cyr\cyrs.}%  
 3374 }

3375 \def\HyLang@spanish{%  
 3376 \def\equationautorefname{Ecuaci'on}%  
 3377 \def\footnoteautorefname{Nota a pie de p'agina}%  
 3378 \def\itemautorefname{Elemento}%  
 3379 \def\figureautorefname{Figura}%  
 3380 \def\tableautorefname{Tabla}%  
 3381 \def\partautorefname{Parte}%  
 3382 \def\appendixautorefname{Ap'endice}%  
 3383 \def\chapterautorefname{Cap'itulo}%  
 3384 \def\sectionautorefname{Secci'on}%  
 3385 \def\subsectionautorefname{Subsecci'on}%  
 3386 \def\subsubsectionautorefname{Subsubsecci'on}%  
 3387 \def\paragraphautorefname{P'arrafo}%  
 3388 \def\subparagraphautorefname{Subp'arrafo}%  
 3389 \def\FancyVerbLineautorefname{L'inea}%  
 3390 \def\theoremautorefname{Teorema}%  
 3391 \def\pageautorefname{P'agina}%  
 3392 }

3393 \def\HyLang@vietnamese{%  
 3394 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr'inh}%  
 3395 \def\footnoteautorefname{Ch'u th'ich}%  
 3396 \def\itemautorefname{m\d{u}c}%  
 3397 \def\figureautorefname{H'inh}%  
 3398 \def\tableautorefname{B'h{a}ng}%  
 3399 \def\partautorefname{Ph'\acircumflex{}n}%  
 3400 \def\appendixautorefname{Ph\d{u}l\d{u}c}%  
 3401 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%  
 3402 \def\sectionautorefname{m\d{u}c}%  
 3403 \def\subsectionautorefname{m\d{u}c}%



```

3404 \def\subsubsectionautorefname{m\d{u}c}%
3405 \def\paragraphautorefname{dj{o\d{a}n}%
3406 \def\subparagraphautorefname{dj{o\d{a}n}%
3407 \def\FancyVerbLineautorefname{d'ong}%
3408 \def\theoremautorefname{DJ{d{i}nh l'y}%
3409 \def\pageautorefname{Trang}%
3410 }

```

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

```

3411 \def\HyLang@addto#1#2{%
3412   #2%
3413   \@temptokena{#2}%
3414   \ifx#1\relax
3415     \let#1\@empty
3416   \fi
3417   \ifx#1\@undefined
3418     \edef#1{\the\@temptokena}%
3419   \else
3420     \toks@\expandafter{#1}%
3421     \edef#1{\the\toks@\the\@temptokena}%
3422   \fi
3423   \@temptokena{}\toks@\@temptokena
3424 }

3425 \def\HyLang@DeclareLang#1#2#3{%
3426   \@ifpackagewith{babel}{#1}{%
3427     \expandafter\HyLang@addto
3428     \csname extras#1\expandafter\endcsname
3429     \csname HyLang@#2\endcsname
3430     \begingroup
3431     \edef\x{\endgroup
3432       #3%
3433     }%
3434     \x
3435     \@namedef{HyLang@#1@done}{}%
3436   }{}%
3437   \begingroup
3438     \edef\x##1#2{%
3439       \noexpand\ifx##2\relax
3440         \errmessage{No definitions for language #2' found!}%
3441       \noexpand\fi
3442     \endgroup
3443     \noexpand\define@key{Hyp}{#1}[]{%
3444       \noexpand\@ifundefined{HyLang@#1@done}{%
3445         \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3446         #3%
3447         \noexpand\@namedef{HyLang@#1@done}{}%
3448       }{}%
3449     }%
3450   }%
3451   \expandafter\x\csname extras#1\expandafter\endcsname
3452     \csname HyLang@#2\endcsname
3453 }

3454 \HyLang@DeclareLang{english}{english}{}
3455 \HyLang@DeclareLang{UKenglish}{english}{}
3456 \HyLang@DeclareLang{british}{english}{}
3457 \HyLang@DeclareLang{USenglish}{english}{}

```

```

3458 \HyLang@DeclareLang{american}{english}{}
3459 \HyLang@DeclareLang{german}{german}{}
3460 \HyLang@DeclareLang{austrian}{german}{}
3461 \HyLang@DeclareLang{ngerman}{german}{}
3462 \HyLang@DeclareLang{naustrian}{german}{}
3463 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3464 \HyLang@DeclareLang{brazil}{portuges}{}
3465 \HyLang@DeclareLang{brazilian}{portuges}{}
3466 \HyLang@DeclareLang{portuguese}{portuges}{}
3467 \HyLang@DeclareLang{spanish}{spanish}{}
3468 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3469 \HyLang@DeclareLang{french}{french}{}
3470 \HyLang@DeclareLang{frenchb}{french}{}
3471 \HyLang@DeclareLang{francais}{french}{}
3472 \HyLang@DeclareLang{acadian}{french}{}
3473 \HyLang@DeclareLang{canadien}{french}{}
3474 \HyLang@DeclareLang{italian}{italian}{}
3475 \HyLang@DeclareLang{magyar}{magyar}{}
3476 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3477 \DeclareVoidOption{vietnamese}{%
3478   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3479   \Hy@AtEndOfPackage{%
3480     \ifundefined{T@PU}{}{}%
3481     \input{puvnenc.def}%
3482   }%
3483 }%
3484 }
3485 \DeclareVoidOption{vietnam}{%
3486   \HyLang@addto\extrasvietnam\HyLang@vietnamese
3487   \Hy@AtEndOfPackage{%
3488     \ifundefined{T@PU}{}{}%
3489     \input{puvnenc.def}%
3490   }%
3491 }%
3492 }

```

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

```

3493 \DeclareVoidOption{arabic}{%
3494   \Hy@AtEndOfPackage{%
3495     \ifundefined{T@PU}{}{}%
3496     \input{puarenc.def}%
3497   }%
3498 }%
3499 }

```

## 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.

```

3500 \define@key{Hyp}{colorlinks}[true]{%
3501   \Hy@boolkey{colorlinks}{#1}%
3502 }
3503 \DeclareVoidOption{hidelinks}{%
3504   \Hy@colorlinksfalse
3505   \Hy@ocgcolorlinksfalse
3506   \Hy@frenchlinksfalse

```

```

3507 \def\Hy@colorlink##1{\begingroup}%
3508 \def\Hy@endcolorlink{\endgroup}%
3509 \def\@pdfborder{0 0 0}%
3510 \let\@pdfborderstyle\ltz@empty
3511 }
3512 \define@key{Hyp}{ocgcolorlinks}[true]{%
3513 \Hy@boolkey{ocgcolorlinks}{#1}%
3514 }
3515 \Hy@AtBeginDocument{%
3516 \begingroup
3517 \@ifundefined{OBJ@OCG@view}{%
3518 \ifHy@ocgcolorlinks
3519 \Hy@Warning{%
3520 Driver does not support 'ocgcolorlinks',\MessageBreak
3521 using 'colorlinks' instead%
3522 }%
3523 \fi
3524 }{}%
3525 \endgroup
3526 }
3527 \define@key{Hyp}{frenchlinks}[true]{%
3528 \Hy@boolkey{frenchlinks}{#1}%
3529 }

```

## 14 Bookmarking

```

3530 \begingroup\expandafter\expandafter\expandafter\endgroup
3531 \expandafter\ifx\csname chapter\endcsname\relax
3532 \def\toclevel@part{0}%
3533 \else
3534 \def\toclevel@part{-1}%
3535 \fi
3536 \def\toclevel@chapter{0}
3537 \def\toclevel@section{1}
3538 \def\toclevel@subsection{2}
3539 \def\toclevel@subsubsection{3}
3540 \def\toclevel@paragraph{4}
3541 \def\toclevel@subparagraph{5}
3542 \def\toclevel@figure{0}
3543 \def\toclevel@table{0}
3544 \@ifpackageloaded{listings}{%
3545 \providecommand*\theHlstlisting{\thelstlisting}%
3546 \providecommand*\toclevel@lstlisting{0}%
3547 }{}
3548 \@ifpackageloaded{listing}{%
3549 \providecommand*\theHlisting{\thelisting}%
3550 \providecommand*\toclevel@listing{0}%
3551 }{}
3552 \define@key{Hyp}{bookmarks}[true]{%
3553 \Hy@boolkey{bookmarks}{#1}%
3554 }
3555 \define@key{Hyp}{bookmarksopen}[true]{%
3556 \Hy@boolkey{bookmarksopen}{#1}%
3557 }

```

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.

```

3558 \let\Hy@bookmarksdepth\c@tocdepth
3559 \define@key{Hyp}{bookmarksdepth}[]{%
3560   \begingroup
3561     \edef\x{#1}%
3562     \ifx\x\empty
3563       \global\let\Hy@bookmarksdepth\c@tocdepth
3564     \else
3565       \@ifundefined{toclevel@\x}{%
3566         \@onelevel@sanitize\x
3567         \edef\y{\expandafter\@car\x\@nil}%
3568         \ifcase 0\expandafter\ifx\y-1\fi
3569           \expandafter\ifnum\expandafter\y>47 %
3570             \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
3571           \Hy@Warning{Unknown document division name (\x)}%
3572         \else
3573           \setbox\z@=\hbox{%
3574             \count@=\x
3575             \xdef\Hy@bookmarksdepth{\the\count@}%
3576           }%
3577         \fi
3578       }{%
3579         \setbox\z@=\hbox{%
3580           \count@=\csname toclevel@\x\endcsname
3581           \xdef\Hy@bookmarksdepth{\the\count@}%
3582         }%
3583       }%
3584     \fi
3585   \endgroup
3586 }
```

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

```

3587 \define@key{Hyp}{bookmarksopenlevel}{%
3588   \def\@bookmarksopenlevel{#1}%
3589 }
3590 \def\@bookmarksopenlevel{\maxdimen}
3591 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3592 \define@key{Hyp}{bookmarkstype}{%
3593   \def\Hy@bookmarkstype{#1}%
3594 }
3595 \def\Hy@bookmarkstype{toc}
```

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

```

3596 \define@key{Hyp}{bookmarksnumbered}[true]{%
3597   \Hy@boolkey{bookmarksnumbered}{#1}%
3598 }
```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3599 \define@key{Hyp}{CJKbookmarks}[true]{%
3600   \Hy@boolkey{CJKbookmarks}{#1}%
3601 }

3602 \def\Hy@temp#1{%
3603   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3604 }
3605 \def\Hy@@temp#1#2#3{%
3606   \define@key{Hyp}{#2color}{%
3607     \HyColor@HyperrefColor{##1}#1%
3608   }%
3609   \def#1{#3}%
3610 }
3611 \Hy@temp{link}{red}
3612 \Hy@temp{anchor}{black}
3613 \Hy@temp{cite}{green}
3614 \Hy@temp{file}{cyan}
3615 \Hy@temp{url}{magenta}
3616 \Hy@temp{menu}{red}
3617 \Hy@temp{run}{\@filecolor}
3618 \define@key{Hyp}{pagecolor}{%
3619   \Hy@WarningPageColor
3620 }
3621 \def\Hy@WarningPageColor{%
3622   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3623   \global\let\Hy@WarningPageColor\relax
3624 }
3625 \define@key{Hyp}{allcolors}{%
3626   \HyColor@HyperrefColor{#1}\@linkcolor
3627   \HyColor@HyperrefColor{#1}\@anchorcolor
3628   \HyColor@HyperrefColor{#1}\@citecolor
3629   \HyColor@HyperrefColor{#1}\@filecolor
3630   \HyColor@HyperrefColor{#1}\@urlcolor
3631   \HyColor@HyperrefColor{#1}\@menucolor
3632   \HyColor@HyperrefColor{#1}\@runcolor
3633 }

3634 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3635 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3636 \let\@baseurl\@empty
3637 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3638 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3639 \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.

```

3640 \let\@pdfpagetransition\relax
3641 \define@key{Hyp}{pdfpagetransition}{%
3642   \def\@pdfpagetransition{#1}%
3643 }

```

`\@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.

```

3644 \let\@pdfpageduration\relax
3645 \define@key{Hyp}{pdfpageduration}{%
3646   \def\@pdfpageduration{#1}%
3647   \Hy@Match\@pdfpageduration{%
3648     ^(|[0-9]+\.\?[0-9]*|[0-9]*\.\?[0-9]+)$%
3649   }{ }{%
3650     \Hy@Warning{%
3651       Invalid value '\@pdfpageduration'\MessageBreak
3652       of option 'pdfpageduration'\MessageBreak
3653       is replaced by an empty value%
3654     }%
3655     \let\@pdfpageduration\ltx@empty
3656   }%
3657 }
```

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.

```

3658 \newif\ifHy@useHidKey
3659 \Hy@useHidKeyfalse
3660 \define@key{Hyp}{pdfpagehidden}[true]{%
3661   \Hy@boolkey{pdfpagehidden}{#1}%
3662   \ifHy@pdfpagehidden
3663     \global\Hy@useHidKeytrue
3664   \fi
3665 }
```

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).

```

3666 \def\Hy@ColorList{cite,file,link,menu,run,url}
3667 \@for\Hy@temp:=\Hy@ColorList\do{%
3668   \edef\Hy@temp{%
3669     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3670       \noexpand\HyColor@HyperrefBorderColor
3671       {##1}%
3672       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3673       {hyperref}%
3674       {\Hy@temp bordercolor}%
3675     }%
3676   }%
3677   \Hy@temp
3678 }
3679 \define@key{Hyp}{pagebordercolor}{%
3680   \Hy@WarningPageBorderColor
3681 }
3682 \def\Hy@WarningPageBorderColor{%
3683   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3684   \global\let\Hy@WarningPageBorderColor\relax
3685 }
3686 \define@key{Hyp}{allbordercolors}{%
```

```

3687 \def\Hy@temp##1##2{%
3688   \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3689 }%
3690 \Hy@temp\@citebordercolor{cite}%
3691 \Hy@temp\@filebordercolor{file}%
3692 \Hy@temp\@linkbordercolor{link}%
3693 \Hy@temp\@menubordercolor{menu}%
3694 \Hy@temp\@runbordercolor{run}%
3695 \Hy@temp\@urlbordercolor{url}%
3696 }

3697 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3698 \Hy@DefNameKey{pdfhighlight}{%
3699   \do{/I}{Invert}%
3700   \do{/N}{None}%
3701   \do{/O}{Outline}%
3702   \do{/P}{Push}%
3703 }
3704 \define@key{Hyp}{pdfborder}{%
3705   \let\Hy@temp\@pdfborder
3706   \def\@pdfborder{#1}%
3707   \Hy@Match\@pdfborder{%
3708     ~\HyPat@NonNegativeReal/ %
3709     \HyPat@NonNegativeReal/ %
3710     \HyPat@NonNegativeReal/%
3711     ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*\])?%%
3712   }{}{%
3713     \Hy@Warning{%
3714       Invalid value '\@pdfborder'\MessageBreak
3715       for option 'pdfborder'.\MessageBreak
3716       Option setting is ignored%
3717     }%
3718     \let\@pdfborder\Hy@temp
3719   }%
3720 }
3721 \define@key{Hyp}{pdfborderstyle}{%
3722   \let\Hy@temp\@pdfborderstyle
3723   \def\@pdfborderstyle{#1}%
3724   \Hy@Match\@pdfborderstyle{%
3725     ~%
3726     ( */Type */Border%
3727     | */W +\HyPat@NonNegativeReal/%
3728     | */S */[SDBIU]%
3729     | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/))?)?}%
3730     )* *$%
3731   }{}{%
3732     \Hy@Warning{%
3733       Invalid value '\@pdfborderstyle'\MessageBreak
3734       for option 'pdfborderstyle'.\MessageBreak
3735       Option setting is ignored%
3736     }%
3737     \let\@pdfborderstyle\Hy@temp
3738   }%
3739 }
3740 \def\Hy@setpdfborder{%
3741   \ifx\@pdfborder\@empty
3742   \else
3743     /Border[\@pdfborder]%

```

```

3744 \fi
3745 \ifx\@pdfborderstyle\@empty
3746 \else
3747 /BS<<\@pdfborderstyle>>%
3748 \fi
3749 }
3750 \Hy@DefNameKey{pdfpagemode}{%
3751 \do{UseNone}{}%
3752 \do{UseOutlines}{}%
3753 \do{UseThumbs}{}%
3754 \do{FullScreen}{}%
3755 \do{UseOC}{PDF 1.5}%
3756 \do{UseAttachments}{PDF 1.6}%
3757 }
3758 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3759 \do{UseNone}{}%
3760 \do{UseOutlines}{}%
3761 \do{UseThumbs}{}%
3762 \do{FullScreen}{}%
3763 \do{UseOC}{PDF 1.5}%
3764 \do{UseAttachments}{PDF 1.6}%
3765 }
3766 \Hy@DefNameKey{pdfdirection}{%
3767 \do{L2R}{Left to right}%
3768 \do{R2L}{Right to left}%
3769 }
3770 \Hy@DefNameKey{pdfviewarea}{%
3771 \do{MediaBox}{}%
3772 \do{CropBox}{}%
3773 \do{BleedBox}{}%
3774 \do{TrimBox}{}%
3775 \do{ArtBox}{}%
3776 }
3777 \Hy@DefNameKey{pdfviewclip}{%
3778 \do{MediaBox}{}%
3779 \do{CropBox}{}%
3780 \do{BleedBox}{}%
3781 \do{TrimBox}{}%
3782 \do{ArtBox}{}%
3783 }
3784 \Hy@DefNameKey{pdfprintarea}{%
3785 \do{MediaBox}{}%
3786 \do{CropBox}{}%
3787 \do{BleedBox}{}%
3788 \do{TrimBox}{}%
3789 \do{ArtBox}{}%
3790 }
3791 \Hy@DefNameKey{pdfprintclip}{%
3792 \do{MediaBox}{}%
3793 \do{CropBox}{}%
3794 \do{BleedBox}{}%
3795 \do{TrimBox}{}%
3796 \do{ArtBox}{}%
3797 }
3798 \Hy@DefNameKey{pdfprintsampling}{%
3799 \do{AppDefault}{}%
3800 \do{None}{}%

```



```

3801 }
3802 \Hy@DefNameKey{pdfduplex}{%
3803   \do{Simplex}{}%
3804   \do{DuplexFlipShortEdge}{}%
3805   \do{DuplexFlipLongEdge}{}%
3806 }
3807 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3808   \do{true}{}%
3809   \do{false}{}%
3810 }
3811 \define@key{Hyp}{pdfprintpagerange}{%
3812   \def\@pdfprintpagerange{#1}%
3813 }
3814 \Hy@DefNameKey{pdfnumcopies}{%
3815   \do{2}{two copies}%
3816   \do{3}{three copies}%
3817   \do{4}{four copies}%
3818   \do{5}{five copies}%
3819 }

3820 \define@key{Hyp}{pdfusetitle}[true]{%
3821   \Hy@boolkey{pdfusetitle}{#1}%
3822 }
3823 \def\HyXeTeX@CheckUnicode{%
3824   \ifxetex
3825     \ifHy@unicode
3826     \else
3827       \Hy@WarningNoLine{%
3828         XeTeX driver only supports unicode.\MessageBreak
3829         Enabling option 'unicode'%
3830       }%
3831       \kvsetkeys{Hyp}{unicode}%
3832     \fi
3833   \else
3834     \let\HyXeTeX@CheckUnicode\relax
3835   \fi
3836 }
3837 \def\HyPsd@PrerenderUnicode#1{%
3838   \begingroup
3839     \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3840     \else
3841       \sbox0{%
3842         \let\GenericInfo\@gobbletwo
3843         \let\GenericWarning\@gobbletwo
3844         \let\GenericError\@gobblefour
3845         \PrerenderUnicode{#1}%
3846       }%
3847     \fi
3848   \endgroup
3849 }
3850 \define@key{Hyp}{pdftitle}{%
3851   \HyXeTeX@CheckUnicode
3852   \HyPsd@XeTeXBigCharstrue
3853   \HyPsd@PrerenderUnicode{#1}%
3854   \pdfstringdef\@pdftitle{#1}%
3855 }
3856 \define@key{Hyp}{pdfauthor}{%
3857   \HyXeTeX@CheckUnicode

```

```

3858 \HyPsd@XeTeXBigCharstrue
3859 \HyPsd@PrerenderUnicode{#1}%
3860 \pdfstringdef\@pdfauthor{#1}%
3861 }
3862 \define@key{Hyp}{pdfproducer}{%
3863 \HyXeTeX@CheckUnicode
3864 \HyPsd@XeTeXBigCharstrue
3865 \HyPsd@PrerenderUnicode{#1}%
3866 \pdfstringdef\@pdfproducer{#1}%
3867 \ifxetex
3868 \Hy@Warning{%
3869 pdfproducer: %
3870 xdvipdfmx will use its own setting\MessageBreak
3871 instead of the value given%
3872 }%
3873 \else
3874 \def\Hy@temp{hdvipdfm}%
3875 \ifx\Hy@driver\Hy@temp
3876 \Hy@Warning{%
3877 pdfproducer: %
3878 dvipdfm(x) will use its own setting\MessageBreak
3879 instead of the value given%
3880 }%
3881 \fi
3882 \fi
3883 }
3884 \define@key{Hyp}{pdfcreator}{%
3885 \HyXeTeX@CheckUnicode
3886 \HyPsd@XeTeXBigCharstrue
3887 \HyPsd@PrerenderUnicode{#1}%
3888 \pdfstringdef\@pdfcreator{#1}%
3889 }
3890 \define@key{Hyp}{pdfcreationdate}{%
3891 \begingroup
3892 \Hy@unicodedefalse
3893 \pdfstringdef\@pdfcreationdate{#1}%
3894 \endgroup
3895 }
3896 \define@key{Hyp}{pdfmoddate}{%
3897 \begingroup
3898 \Hy@unicodedefalse
3899 \pdfstringdef\@pdfmoddate{#1}%
3900 \endgroup
3901 }
3902 \define@key{Hyp}{pdfsubject}{%
3903 \HyXeTeX@CheckUnicode
3904 \HyPsd@XeTeXBigCharstrue
3905 \HyPsd@PrerenderUnicode{#1}%
3906 \pdfstringdef\@pdfsubject{#1}%
3907 }
3908 \define@key{Hyp}{pdfkeywords}{%
3909 \HyXeTeX@CheckUnicode
3910 \HyPsd@XeTeXBigCharstrue
3911 \HyPsd@PrerenderUnicode{#1}%
3912 \pdfstringdef\@pdfkeywords{#1}%
3913 }
3914 \define@key{Hyp}{pdftrapped}{%

```

```

3915 \lowercase{\edef\Hy@temp{#1}}%
3916 \ifx\Hy@temp\HyInfo@trapped@true
3917 \def\@pdftrapped{True}%
3918 \else
3919 \ifx\Hy@temp\HyInfo@trapped@false
3920 \def\@pdftrapped{False}%
3921 \else
3922 \ifx\Hy@temp\HyInfo@trapped@unknown
3923 \def\@pdftrapped{Unknown}%
3924 \else
3925 \ifx\Hy@temp\@empty
3926 \else
3927 \Hy@Warning{%
3928     Unsupported value '#1'\MessageBreak
3929     for option 'pdftrapped'%
3930 }%
3931 \fi
3932 \def\@pdftrapped{}%
3933 \fi
3934 \fi
3935 \fi
3936 }
3937 \def\HyInfo@trapped@true{true}
3938 \def\HyInfo@trapped@false{false}
3939 \def\HyInfo@trapped@unknown{unknown}
3940 \def\HyInfo@TrappedUnsupported{%
3941 \ifx\@pdftrapped\@empty
3942 \else
3943 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3944 \gdef\HyInfo@TrappedUnsupported{}%
3945 \fi
3946 }
3947 \define@key{Hyp}{pdfinfo}{%
3948 \kvsetkeys{pdfinfo}{#1}%
3949 }
3950 \def\Hy@temp#1{%
3951 \lowercase{\Hy@temp@A{#1}}{#1}%
3952 }
3953 \def\Hy@temp@A#1#2{%
3954 \define@key{pdfinfo}{#2}{%
3955 \hypersetup{pdf#1={##1}}%
3956 }%
3957 }
3958 \Hy@temp{Title}
3959 \Hy@temp{Author}
3960 \Hy@temp{Keywords}
3961 \Hy@temp{Subject}
3962 \Hy@temp{Creator}
3963 \Hy@temp{Producer}
3964 \Hy@temp{CreationDate}
3965 \Hy@temp{ModDate}
3966 \Hy@temp{Trapped}
3967 \newif\ifHyInfo@AddonUnsupported
3968 \kv@set@family@handler{pdfinfo}{%
3969 \HyInfo@AddonHandler{#1}{#2}%
3970 }
3971 \let\HyInfo@do\relax

```

```

3972 \def\HyInfo@AddonHandler#1#2{%
3973   \ifx\kv@value\relax
3974     \Hy@Warning{%
3975       Option 'pdfinfo': ignoring key '\kv@key' without value%
3976     }%
3977   \else
3978     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3979     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3980     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3981     \ifHyInfo@AddonUnsupported
3982       \Hy@Warning{%
3983         This driver does not support additional\MessageBreak
3984         information entries, therefore\MessageBreak
3985         '\kv@key' is ignored%
3986       }%
3987     \else
3988       \define@key{pdfinfo}{\HyInfo@Key}{%
3989         \HyXeTeX@CheckUnicode
3990         \HyPsd@XeTeXBigCharstrue
3991         \HyPsd@PrerenderUnicode{##1}%
3992         \pdfstringdef\HyInfo@Value{##1}%
3993         \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3994         \HyInfo@Value
3995       }%
3996     \edef\HyInfo@AddonList{%
3997       \HyInfo@AddonList
3998       \HyInfo@do{\HyInfo@Key}%
3999     }%
4000     \kv@parse@normalized{%
4001       \HyInfo@Key={##2}%
4002     }{%
4003       \kv@processor@default{pdfinfo}%
4004     }%
4005   \fi
4006 \else
4007   \kv@parse@normalized{%
4008     \HyInfo@Key={##2}%
4009   }{%
4010     \kv@processor@default{pdfinfo}%
4011   }%
4012 \fi
4013 \fi
4014 }
4015 \def\HyInfo@GenerateAddons{%
4016   \ifHyInfo@AddonUnsupported
4017     \def\HyInfo@Addons{%
4018       \else
4019         \begingroup
4020         \toks@{%
4021           \def\HyInfo@do##1{%
4022             \EdefEscapeName\HyInfo@Key{##1}%
4023             \edef\x{%
4024               \toks@{%
4025                 \the\toks@
4026                 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
4027               }%
4028             }%

```

```

4029 \x
4030 }%
4031 \HyInfo@AddonList
4032 \edef\x{\endgroup
4033 \def\noexpand\HyInfo@Addons{\the\toks@}%
4034 }%
4035 \x
4036 \fi
4037 }
4038 \let\HyInfo@AddonList\ltx@empty

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

```

```

4086      (null|\HyPat@NonNegativeReal/)|%
4087      Fit(|B|)%
4088      (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
4089      R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
4090      \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
4091      ))$%
4092      }-}{%
4093      \Hy@Warning{%
4094      Invalid value '\@pdfremotestartview'\MessageBreak
4095      of 'pdfremotestartview'\MessageBreak
4096      is replaced by 'Fit'%
4097      }%
4098      \let\@pdfremotestartview\@empty
4099      }%
4100      \ifx\@pdfremotestartview\@empty
4101      \def\@pdfremotestartview{/Fit}%
4102      \else
4103      \edef\@pdfremotestartview{/ \@pdfremotestartview}%
4104      \fi
4105      \fi
4106      }
4107      \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
4108      \define@key{Hyp}{pdftoolbar}[true]{%
4109      \Hy@boolkey{pdftoolbar}{#1}%
4110      }
4111      \define@key{Hyp}{pdfmenubar}[true]{%
4112      \Hy@boolkey{pdfmenubar}{#1}%
4113      }
4114      \define@key{Hyp}{pdfwindowui}[true]{%
4115      \Hy@boolkey{pdfwindowui}{#1}%
4116      }
4117      \define@key{Hyp}{pdffitwindow}[true]{%
4118      \Hy@boolkey{pdffitwindow}{#1}%
4119      }
4120      \define@key{Hyp}{pdfcenterwindow}[true]{%
4121      \Hy@boolkey{pdfcenterwindow}{#1}%
4122      }
4123      \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
4124      \Hy@boolkey{pdfdisplaydoctitle}{#1}%
4125      }
4126      \define@key{Hyp}{pdfa}[true]{%
4127      \Hy@boolkey{pdfa}{#1}%
4128      }
4129      \define@key{Hyp}{pdfnewwindow}[true]{%
4130      \def\Hy@temp{#1}%
4131      \ifx\Hy@temp\@empty
4132      \Hy@pdfnewwindowsetfalse
4133      \else
4134      \Hy@pdfnewwindowsettrue
4135      \Hy@boolkey{pdfnewwindow}{#1}%
4136      \fi
4137      }
4138      \def\Hy@SetNewWindow{%
4139      \ifHy@pdfnewwindowset
4140      /NewWindow %
4141      \ifHy@pdfnewwindow true\else false\fi
4142      \fi

```

```

4143 }
4144 \Hy@DefNameKey{pdfpagelayout}{%
4145   \do{SinglePage}{}%
4146   \do{OneColumn}{}%
4147   \do{TwoColumnLeft}{}%
4148   \do{TwoColumnRight}{}%
4149   \do{TwoPageLeft}{PDF 1.5}%
4150   \do{TwoPageRight}{PDF 1.5}%
4151 }
4152 \define@key{Hyp}{pdflang}{%
4153   \def\@pdflang{#1}%
4154 }
4155 \define@key{Hyp}{pdfpagelabels}[true]{%
4156   \Hy@boolkey{pdfpagelabels}{#1}%
4157 }
4158 \define@key{Hyp}{pdfescapeform}[true]{%
4159   \Hy@boolkey{pdfescapeform}{#1}%
4160 }

```

Default values:

```

4161 \def\@linkbordercolor{1 0 0}
4162 \def\@urlbordercolor{0 1 1}
4163 \def\@menubordercolor{1 0 0}
4164 \def\@filebordercolor{0 .5 .5}
4165 \def\@runbordercolor{0 .7 .7}
4166 \def\@citebordercolor{0 1 0}
4167 \def\@pdfhighlight{/I}
4168 \let\@pdftitle\ltx@empty
4169 \let\@pdfauthor\ltx@empty
4170 \let\@pdfproducer\relax
4171 \def\@pdfcreator{LaTeX with hyperref package}
4172 \let\@pdfcreationdate\ltx@empty
4173 \let\@pdfmoddate\ltx@empty
4174 \let\@pdfsubject\ltx@empty
4175 \let\@pdfkeywords\ltx@empty
4176 \let\@pdftrapped\ltx@empty
4177 \let\@pdfpagescrop\ltx@empty
4178 \def\@pdfstartview{/Fit}
4179 \def\@pdfremotestartview{/Fit}
4180 \def\@pdfstartpage{1}
4181 \let\@pdfprintpagerange\ltx@empty
4182 \let\@pdflang\ltx@empty
4183 \let\PDF@SetupDoc\@empty
4184 \let\PDF@FinishDoc\@empty
4185 \let\phantomsection\@empty
4186 \let\special@paper\@empty
4187 \def\HyperDestNameFilter#1{#1}
4188 \Hy@AtBeginDocument{%
4189   \begingroup
4190     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4191     \dimen@=\x\relax
4192     \ifdim\dimen@>\z@
4193       \else
4194         \dimen@=11in\relax
4195         \Hy@WarningNoLine{%
4196           Height of page (\expandafter\string\x) %
4197           is invalid (\the\x),\MessageBreak
4198           using 11in%

```

```

4199 }%
4200 \fi
4201 \dimen@=0.99626401\dimen@
4202 \xdef\Hy@pageheight{\strip@pt\dimen@}%
4203 \endgroup
4204 }
4205 \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.

```

4206 \let\hyper@normalise\ExecuteOptions
4207 \let\ExecuteOptions\hypersetup
4208 \Hy@RestoreCatcodes
4209 \InputIfFileExists{hyperref.cfg}{-}{-}
4210 \Hy@SetCatcodes
4211 \let\ExecuteOptions\hyper@normalise
4212 \ifx\Hy@MaybeStopNow\relax
4213 \else
4214 \Hy@stoppedearlytrue
4215 \expandafter\Hy@MaybeStopNow
4216 \fi
4217 \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.

```

4218 \SetupKeyvalOptions{family=Hyp}
4219 \DeclareLocalOptions{%
4220 a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4221 }

```

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

```

4222 \@ifpackageloaded{tex4ht}{%
4223 \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
4224 \PassOptionsToPackage{tex4ht}{hyperref}%
4225 }%
4226 }{-}

4227 \let\ReadBookmarks\relax
4228 \ProcessKeyvalOptions{Hyp}

```

After processing options.

## 15.1 Package `xspace` support

```

4229 \def\Hy@xspace@end{}
4230 \ltx@ifundefined{xspaceaddexceptions}{-}{-}%
4231 \Hy@AtBeginDocument{%
4232 \ltx@ifundefined{xspaceaddexceptions}{-}{-}%
4233 }{-}%
4234 \def\Hy@xspace@end{%
4235 \ltx@gobble{end for xspace}%
4236 }%
4237 \xspaceaddexceptions{%
4238 \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4239 }%
4240 }%
4241 }%
4242 }{-}%

```



```

4243 \def\Hy@xspace@end{%
4244   \ltx@gobble{end for xspace}%
4245 }%
4246 \xspaceaddeceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4247 }

```

## 15.2 Option draft

```

4248 \Hy@AtBeginDocument{%
4249   \ifHy@draft
4250     \let\hyper@@anchor\@gobble
4251     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4252     \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4253     \def\hyper@anchorend{\Hy@xspace@end}%
4254     \let\hyper@linkstart\@gobbletwo
4255     \def\hyper@linkend{\Hy@xspace@end}%
4256     \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4257     \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4258     \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4259     \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4260     \let\PDF@SetupDoc\@empty
4261     \let\PDF@FinishDoc\@empty
4262     \let\@fifthoffive\@secondoftwo
4263     \let\@secondoffive\@secondoftwo
4264     \let\ReadBookmarks\relax
4265     \let\WriteBookmarks\relax
4266     \Hy@WarningNoLine{Draft mode on}%
4267   \fi
4268   \Hy@DisableOption{draft}%
4269   \Hy@DisableOption{nolinks}%
4270   \Hy@DisableOption{final}%
4271 }

```

## 15.3 PDF/A

```

4272 \Hy@DisableOption{pdfa}
4273 \ifHy@pdfa
4274   \kvsetkeys{Hyp}{pdfversion=1.4}%
4275   \def\Hy@Acrobatmenu#1#2{%
4276     \leavevmode
4277     \begingroup
4278     \edef\x{#1}%
4279     \@onelevel@sanitize\x
4280     \ifx\x\Hy@NextPage
4281       \let\y=Y%
4282     \else
4283       \ifx\x\Hy@PrevPage
4284         \let\y=Y%
4285       \else
4286         \ifx\x\Hy@FirstPage
4287           \let\y=Y%
4288         \else
4289           \ifx\x\Hy@LastPage
4290             \let\y=Y%
4291           \else
4292             \let\y=N%
4293           \fi
4294         \fi
4295       \fi

```

```

4296 \fi
4297 \expandafter\endgroup
4298 \ifx\y Y%
4299 \else
4300 \Hy@Error{%
4301   PDF/A: Named action ‘#1’ is not permitted%
4302 } \@ehc
4303 {#2}%
4304 \expandafter\@gobble
4305 \fi
4306 }%
4307 \def\Hy@temp#1{%
4308   \expandafter\def\csname Hy@#1\endcsname{#1}%
4309   \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4310 }%
4311 \Hy@temp{NextPage}%
4312 \Hy@temp{PrevPage}%
4313 \Hy@temp{FirstPage}%
4314 \Hy@temp{LastPage}%
4315 \else
4316 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4317 \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.

```

4318 \Hy@nextfalse
4319 \ltx@ifundefined{spanish@sh@}{\Hy@nexttrue}
4320 \ltx@ifundefined{galician@sh@}{\Hy@nexttrue}
4321 \ltx@ifundefined{estonian@sh@}{\Hy@nexttrue}
4322 \ifHy@next
4323 \let\texttilde\~%
4324 \fi

4325 \def\Hy@wrapper@babel#1#2{%
4326   \begingroup
4327   \Hy@safe@activetrue
4328   \set@display@protect
4329   \edef\x{#2}%
4330   \@onelevel@sanitize\x
4331   \toks@{#1}%
4332   \edef\x{\endgroup\the\toks@{x}}%
4333   \x
4334 }

4335 \def\Hy@WrapperDef#1{%
4336   \begingroup
4337   \escapechar=\m@ne
4338   \xdef\Hy@gtemp{%
4339     \expandafter\noexpand\csname HyWrap@string#1\endcsname
4340   }%
4341   \endgroup
4342   \edef#1{%
4343     \noexpand\Hy@wrapper@babel
4344     \expandafter\noexpand\Hy@gtemp
4345   }%
4346   \expandafter\def\Hy@gtemp

```

```

4347 }
4348 \ifHy@hyperfigures
4349 \Hy@Info{Hyper figures ON}%
4350 \else
4351 \Hy@Info{Hyper figures OFF}%
4352 \fi
4353 \ifHy@nesting
4354 \Hy@Info{Link nesting ON}%
4355 \else
4356 \Hy@Info{Link nesting OFF}%
4357 \fi
4358 \ifHy@hyperindex
4359 \Hy@Info{Hyper index ON}%
4360 \else
4361 \Hy@Info{Hyper index OFF}%
4362 \fi
4363 \ifHy@plainpages
4364 \Hy@Info{Plain pages ON}%
4365 \else
4366 \Hy@Info{Plain pages OFF}%
4367 \fi
4368 \ifHy@backref
4369 \Hy@Info{Backreferencing ON}%
4370 \else
4371 \Hy@Info{Backreferencing OFF}%
4372 \fi
4373 \ifHy@typexml
4374 \Hy@AtEndOfPackage{%
4375 \RequirePackage{color}%
4376 \RequirePackage{nameref}%
4377 }%
4378 \fi
4379 \Hy@DisableOption{typexml}
4380 \ifHy@implicit
4381 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4382 \else
4383 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4384 \def\MaybeStopEarly{%
4385 \Hy@Message{Stopped early}%
4386 \Hy@AtBeginDocument{%
4387 \PDF@FinishDoc
4388 \gdef\PDF@FinishDoc{}%
4389 }%
4390 \endinput
4391 }%
4392 \Hy@AtBeginDocument{%
4393 \let\autoref\ref
4394 \let\autopageref\pageref
4395 \ifx\@pdfpagemode\@empty
4396 \gdef\@pdfpagemode{UseNone}%
4397 \fi
4398 \global\Hy@backreffalse
4399 }%
4400 \Hy@AtEndOfPackage{%
4401 \global\let\ReadBookmarks\relax
4402 \global\let\WriteBookmarks\relax
4403 }%

```

```

4404 \fi
4405 \Hy@DisableOption{implicit}

```

### 15.4.1 Driver loading

```

4406 \Hy@AtEndOfPackage{%
4407 \ifpackageloaded{tex4ht}{%
4408 \def\Hy@driver{htex4ht}%
4409 \Hy@texhttrue
4410 }{}%

```

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.

```

4411 \ifx\Hy@driver\@empty
4412 \else
4413 \def\Hy@temp{hpdfTeX}%
4414 \ifpdf
4415 \ifx\Hy@driver\Hy@temp
4416 \else
4417 \Hy@WarningNoLine{%
4418 Wrong driver ‘\Hy@driver.def’;\MessageBreak
4419 pdfTeX is running in PDF mode.\MessageBreak
4420 Forcing driver ‘\Hy@temp.def’%
4421 }%
4422 \let\Hy@driver\Hy@temp
4423 \fi
4424 \else
4425 \ifx\Hy@driver\Hy@temp
4426 \Hy@WarningNoLine{%
4427 Wrong driver ‘\Hy@driver.def’;\MessageBreak
4428 pdfTeX is not running in PDF mode.\MessageBreak
4429 Using default driver%
4430 }%
4431 \let\Hy@driver\@empty
4432 \fi
4433 \fi
4434 \fi
4435 \ifHy@texht
4436 \else
4437 \ifx\Hy@driver\@empty
4438 \else
4439 \def\Hy@temp{hxetex}%
4440 \ifxetex
4441 \ifx\Hy@driver\Hy@temp
4442 \else
4443 \Hy@WarningNoLine{%
4444 Wrong driver ‘\Hy@driver.def’;\MessageBreak
4445 XeTeX is running.\MessageBreak
4446 Forcing driver ‘\Hy@temp.def’ for XeTeX%
4447 }%
4448 \let\Hy@driver\Hy@temp
4449 \fi
4450 \fi
4451 \fi
4452 \fi
4453 \ifx\Hy@driver\@empty
4454 \else
4455 \def\Hy@temp{hvtexhtm}%

```

```

4456 \ifvtexhtml
4457 \ifx\Hy@driver\Hy@temp
4458 \else
4459 \Hy@WarningNoLine{%
4460 Wrong driver '\Hy@driver.def';\MessageBreak
4461 VTeX is running in HTML mode.\MessageBreak
4462 Forcing driver '\Hy@temp.def'%
4463 }%
4464 \let\Hy@driver\Hy@temp
4465 \fi
4466 \else
4467 \ifx\Hy@driver\Hy@temp
4468 \Hy@WarningNoLine{%
4469 Wrong driver '\Hy@driver.def';\MessageBreak
4470 VTeX is not running in HTML mode.\MessageBreak
4471 Using default driver%
4472 }%
4473 \let\Hy@driver\@empty
4474 \fi
4475 \fi
4476 \fi

```

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

```

4477 \def\HyOpt@DriverType{%
4478 \ifx\Hy@driver\@empty
4479 \def\HyOpt@DriverType{(autodetected)}%
4480 \providecommand*\Hy@defaultdriver{\hypertex}%
4481 \ifpdf
4482 \def\Hy@driver{hpdfTeX}%
4483 \else
4484 \ifxetex
4485 \def\Hy@driver{hxetex}%
4486 \else
4487 \ifvtexhtml
4488 \def\Hy@driver{hvtexhtm}%
4489 \def\MaybeStopEarly{%
4490 \Hy@Message{Stopped early}%
4491 \Hy@AtBeginDocument{%
4492 \PDF@FinishDoc
4493 \gdef\PDF@FinishDoc{}}%
4494 }%
4495 \endinput
4496 }%
4497 \else
4498 \ifvtexpdf
4499 \def\Hy@driver{hvtex}%
4500 \else
4501 \ifvtexps
4502 \def\Hy@driver{hvtex}%
4503 \else
4504 \ifx\HyOpt@DriverFallback\ltx@empty
4505 \let\Hy@driver\Hy@defaultdriver
4506 \def\HyOpt@DriverType{(default)}%
4507 \else
4508 \begingroup
4509 \toks@{\expandafter{\HyOpt@DriverFallback}%
4510 \edef\x{\endgroup
4511 \noexpand\kvsetkeys{Hyp}{\the\toks@}%

```

```

4512         }%
4513     \x
4514     \ifx\Hy@driver\ltx@empty
4515         \let\Hy@driver\Hy@defaultdriver
4516         \def\HyOpt@DriverType{ (default)}%
4517     \else
4518         \def\HyOpt@DriverType{ (fallback)}%
4519     \fi
4520 \fi
4521 \fi
4522 \fi
4523 \fi
4524 \fi
4525 \fi
4526 \ifx\Hy@driver\Hy@defaultdriver
4527     \def\Hy@temp{hdvwind}%
4528     \ifx\Hy@temp\Hy@driver
4529         \kvsetkeys{Hyp}{colorlinks}%
4530         \PassOptionsToPackage{dviwindo}{color}%
4531     \fi
4532 \fi
4533 \fi
4534 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4535 \chardef\Hy@VersionChecked=0 %
4536 \input{\Hy@driver.def}%
4537 \ifcase\Hy@VersionChecked
4538     \Hy@VersionCheck{\Hy@driver.def}%
4539 \fi
4540 \let\@unprocessedoptions\relax
4541 \Hy@RestoreCatcodes
4542 \Hy@DisableOption{tex4ht}%
4543 \Hy@DisableOption{pdftex}%
4544 \Hy@DisableOption{nativepdf}%
4545 \Hy@DisableOption{dvipdfm}%
4546 \Hy@DisableOption{dvipdfmx}%
4547 \Hy@DisableOption{dvipdfmx-outline-open}%
4548 \Hy@DisableOption{pdfmark}%
4549 \Hy@DisableOption{dvips}%
4550 \Hy@DisableOption{hypertex}%
4551 \Hy@DisableOption{vtex}%
4552 \Hy@DisableOption{vtexpdfmark}%
4553 \Hy@DisableOption{dviwindo}%
4554 \Hy@DisableOption{dvipsone}%
4555 \Hy@DisableOption{textures}%
4556 \Hy@DisableOption{latex2html}%
4557 \Hy@DisableOption{ps2pdf}%
4558 \Hy@DisableOption{xetex}%
4559 \Hy@DisableOption{pdfversion}%
4560 }

```

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.

```

4561 \newif\ifHy@DvipdfmxOutlineOpen
4562 \ifxetex
4563     \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4564     \else
4565         \chardef\SpecialDvipdfmxOutlineOpen\@ne

```

```

4566 \Hy@DvipdfmxOutlineOpentru
4567 \fi
4568 \fi
4569 \begingroup\expandafter\expandafter\expandafter\endgroup
4570 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4571 \else
4572 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4573 \Hy@DvipdfmxOutlineOpentru
4574 \fi
4575 \fi

```

### 15.4.2 Bookmarks

```

4576 \def\WriteBookmarks{0}
4577 \def\@bookmarkopenstatus#1{%
4578 \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:

```

4579 \ifnum#1<\expandafter\@firstofone\expandafter
4580 {\number\@bookmarkopenlevel} % explicit space
4581 \else
4582 -%
4583 \fi
4584 \else
4585 -%
4586 \fi
4587 }
4588 \ifHy@bookmarks
4589 \Hy@Info{Bookmarks ON}%
4590 \ifx\@pdfpagemode\@empty
4591 \def\@pdfpagemode{UseOutlines}%
4592 \fi
4593 \else
4594 \let\@bookmarkopenstatus\ltx@gobble
4595 \Hy@Info{Bookmarks OFF}%
4596 \Hy@AtEndOfPackage{%
4597 \global\let\ReadBookmarks\relax
4598 \global\let\WriteBookmarks\relax
4599 }%
4600 \ifx\@pdfpagemode\@empty
4601 \def\@pdfpagemode{UseNone}%
4602 \fi
4603 \fi
4604 \Hy@DisableOption{bookmarks}

```

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

```

4605 \def\Hy@CatcodeWrapper#1{%
4606 \let\Hy@endWrap\ltx@empty
4607 \def\TMP@EnsureCode##1##2{%
4608 \edef\Hy@endWrap{%
4609 \Hy@endWrap
4610 \catcode##1 \the\catcode##1\relax
4611 }%
4612 \catcode##1 ##2\relax
4613 }%
4614 \TMP@EnsureCode{10}{12}% ^^J
4615 \TMP@EnsureCode{33}{12}% !
4616 \TMP@EnsureCode{34}{12}% "
4617 \TMP@EnsureCode{36}{3}% $ (math)

```

```

4618 \TMP@EnsureCode{38}{4}% & (alignment)
4619 \TMP@EnsureCode{39}{12}% '
4620 \TMP@EnsureCode{40}{12}% (
4621 \TMP@EnsureCode{41}{12}% )
4622 \TMP@EnsureCode{42}{12}% *
4623 \TMP@EnsureCode{43}{12}% +
4624 \TMP@EnsureCode{44}{12}% ,
4625 \TMP@EnsureCode{45}{12}% -
4626 \TMP@EnsureCode{46}{12}% .
4627 \TMP@EnsureCode{47}{12}% /
4628 \TMP@EnsureCode{58}{12}% :
4629 \TMP@EnsureCode{59}{12}% ;
4630 \TMP@EnsureCode{60}{12}% <
4631 \TMP@EnsureCode{61}{12}% =
4632 \TMP@EnsureCode{62}{12}% >
4633 \TMP@EnsureCode{63}{12}% ?
4634 \TMP@EnsureCode{91}{12}% [
4635 \TMP@EnsureCode{93}{12}% ]
4636 \TMP@EnsureCode{94}{7}% ^ (superscript)
4637 \TMP@EnsureCode{95}{8}% _ (subscript)
4638 \TMP@EnsureCode{96}{12}% '
4639 \TMP@EnsureCode{124}{12}% |
4640 \TMP@EnsureCode{126}{13}% ~ (active)
4641 #1\relax
4642 \Hy@EndWrap
4643 }

```

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

```

4644 \Hy@AtBeginDocument{%
4645   \ifHy@ocgcolorlinks
4646     \kvsetkeys{Hyp}{colorlinks}%
4647     \ifHy@pdfa
4648       \Hy@Warning{%
4649         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4650         using 'colorlinks' instead of 'ocgcolorlinks'%
4651       }%
4652     \Hy@ocgcolorlinksfalse
4653   \fi
4654 \fi
4655 \ifHy@ocgcolorlinks
4656 \else
4657   \Hy@DisableOption{ocgcolorlinks}%
4658 \fi
4659 \ifHy@colorlinks
4660   \def\@pdfborder{0 0 0}%
4661   \let\@pdfborderstyle\@empty
4662   \ifHy@typexml
4663     \else
4664       \Hy@CatcodeWrapper{%
4665         \RequirePackage{color}%
4666       }%
4667     \fi
4668   \def\Hy@colorlink#1{%
4669     \begingroup
4670     \HyColor@UseColor#1%
4671   }%
4672   \def\Hy@endcolorlink{\endgroup}%

```



```

4673 \Hy@Info{Link coloring ON}%
4674 \else
4675 \ifHy@frenchlinks
4676 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4677 \def\Hy@endcolorlink{\endgroup}%
4678 \Hy@Info{French linking ON}%
4679 \else
for grouping consistency:
4680 \def\Hy@colorlink#1{\begingroup}%
4681 \def\Hy@endcolorlink{\endgroup}%
4682 \Hy@Info{Link coloring OFF}%
4683 \fi
4684 \fi
4685 \Hy@DisableOption{colorlinks}%
4686 \Hy@DisableOption{frenchlinks}%
4687 \ifHy@texht
4688 \long\def\@firstoffive#1#2#3#4#5{#1}%
4689 \long\def\@secondoffive#1#2#3#4#5{#2}%
4690 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4691 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4692 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4693 \providecommand*\@safe@activetrue{}%
4694 \providecommand*\@safe@activesfalse{}%
4695 \def\T@ref#1{%
4696 \Hy@safe@activetrue
4697 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4698 \Hy@safe@activesfalse
4699 }%
4700 \def\T@pageref#1{%
4701 \Hy@safe@activetrue
4702 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4703 \Hy@safe@activesfalse
4704 }%
4705 \else
4706 \ifHy@typexml
4707 \else
4708 \Hy@CatcodeWrapper{%
4709 \RequirePackage{nameref}%
4710 }%
4711 \fi
4712 \fi
4713 \DeclareRobustCommand\ref{%
4714 \@ifstar\@refstar\T@ref
4715 }%
4716 \DeclareRobustCommand\pageref{%
4717 \@ifstar\@pagerefstar\T@pageref
4718 }%
4719 % \ifclassloaded{memoir}{%
4720 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4721 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4722 % }%
4723 % }\ltx@secondoftwo
4724 % {%
4725 % \DeclareRobustCommand*{\nameref}{%
4726 % \@ifstar\@mem@titlerefno link\@mem@titleref
4727 % }%
4728 % }{%

```

```

4729 \DeclareRobustCommand*\nameref{%
4730   \@ifstar\@namerefstar\T@nameref
4731 }%
4732 %}%
4733 }
4734 \Hy@AtBeginDocument{%
4735   \ifHy@texht
4736   \else
4737     \Hy@CatcodeWrapper\ReadBookmarks
4738   \fi
4739 }
4740 \ifHy@backref
4741   \RequirePackage{backref}%
4742 \else
4743   \let\Hy@backout\@gobble
4744 \fi
4745 \Hy@DisableOption{backref}
4746 \Hy@DisableOption{pagebackref}
4747 \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`.

```

4748 \begingroup
4749   \endlinechar=-1 %
4750   \catcode'\^^A=14 %
4751   \catcode'\^^M\active
4752   \catcode'\%\active
4753   \catcode'\#\active
4754   \catcode'\_\active
4755   \catcode'\$\active
4756   \catcode'\&\active
4757   \gdef\hyper@normalise{^^A
4758     \begingroup
4759       \catcode'\^^M\active
4760       \def^^M{ }^^A
4761       \catcode'\%\active
4762       \let%\@percentchar
4763       \let%\@percentchar
4764       \catcode'\#\active
4765       \def#{\hyper@hash}^^A
4766       \def\#{\hyper@hash}^^A
4767       \@makeother\&^^A
4768       \edef&{\string&}^^A
4769       \edef\&{\string&}^^A
4770       \edef\textunderscore{\string_}^^A
4771       \let_\textunderscore
4772       \catcode'\_\active
4773       \let_\textunderscore
4774       \let~\hyper@tilde

```

```

4775 \let\-\hyper@tilde
4776 \let\textasciitilde\hyper@tilde
4777 \let\\\@backslashchar
4778 \edef$\string$}^^A
4779 \Hy@safe@activetrue
4780 \hyper@n@rmalise
4781 }^^A
4782 \catcode'\# =6 ^^A
4783 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4784 \gdef\hyper@n@rmalise#1#2{^^A
4785 \def\Hy@tempa{#2}^^A
4786 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4787 \ltx@ReturnAfterElseFi{^^A
4788 \hyper@@normalise{#1}^^A
4789 }^^A
4790 \else
4791 \ltx@ReturnAfterFi{^^A
4792 \hyper@@normalise{#1}{#2}^^A
4793 }^^A
4794 \fi
4795 }^^A
4796 \gdef\hyper@@normalise#1#2{^^A
4797 \edef\Hy@tempa{^^A
4798 \endgroup
4799 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4800 }^^A
4801 \Hy@tempa
4802 }^^A
4803 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4804 #1^^A
4805 \ifx\limits#2\limits
4806 \else
4807 \ltx@ReturnAfterFi{^^A
4808 \Hy@RemovePercentCr #2\@nil
4809 }^^A
4810 \fi
4811 }^^A
4812 \endgroup
4813 \providecommand*\hyper@chars{%
4814 \let\#\hyper@hash
4815 \let\%\@percentchar
4816 \Hy@safe@activetrue
4817 }

4818 \def\hyperlink#1#2{%
4819 \hyper@@link{}{#1}{#2}%
4820 }

4821 \def\Hy@VerboseLinkStart#1#2{%
4822 \ifHy@verbose
4823 \begingroup
4824 \Hy@safe@activetrue
4825 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4826 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4827 \xdef\Hy@VerboseGlobalTemp{%
4828 \Hy@VerboseGlobalTemp, %
4829 line \the\inputlineno
4830 }%
4831 \endgroup

```

```

4832 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4833 \@onelevel@sanitize\Hy@VerboseLinkInfo
4834 \fi
4835 }

4836 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4837 \def\Hy@VerboseLinkStop{%
4838   \ifHy@verbose
4839     \begingroup
4840     \edef\x{\endgroup
4841       \write\m@ne{%
4842         Package 'hyperref' Info: %
4843         End of reference \Hy@VerboseLinkInfo.%
4844       }%
4845     }%
4846     \x
4847   \fi
4848 }

4849 \def\Hy@VerboseAnchor#1{%
4850   \ifHy@verbose
4851     \begingroup
4852     \Hy@safe@activestrue
4853     \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4854   \endgroup
4855 \fi
4856 }

4857 \def\Hy@AllowHyphens{%
4858   \relax
4859   \ifhmode
4860     \penalty\@M
4861     \hskip\z@skip
4862   \fi
4863 }

4864 \DeclareRobustCommand*{\href}[1][]{%
4865   \begingroup
4866   \setkeys{href}{#1}%
4867   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4868 }
4869 \def\Hy@href#1{%
4870   \hyper@normalise\href@
4871 }
4872 \begingroup
4873 \catcode'\$=6 %
4874 \catcode'\#=12 %
4875 \gdef\href$1{\expandafter\href@split$1##\}%
4876 \gdef\href@split$1##$2##$3\\$4{%
4877   \hyper@@link{$1}{$2}{$3}{$4}%
4878 }
4879 }%
4880 \endgroup

```

Option 'page'.

```

4881 \define@key{href}{page}{%
4882   \def\Hy@href@page{#1}%
4883 }
4884 \let\Hy@href@page\@empty
4885 \newcount\c@Hy@tempcnt

```

```

4886 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4887 \def\Hy@MakeRemoteAction{%
4888   \ifx\Hy@href@page\@empty
4889     \def\Hy@href@page{0}%
4890   \else
4891     \setcounter{Hy@tempcnt}{\Hy@href@page}%
4892     \ifnum\c@Hy@tempcnt<\@ne
4893       \Hy@Warning{%
4894         Invalid page number (\theHy@tempcnt)\MessageBreak
4895         for remote PDF file.\MessageBreak
4896         Using page 1%
4897       }%
4898     \def\Hy@href@page{0}%
4899   \else
4900     \global\advance\c@Hy@tempcnt\m@ne
4901     \edef\Hy@href@page{\theHy@tempcnt}%
4902   \fi
4903 \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.

```

4904 \ifx\Hy@href@nextactionraw\@empty
4905 \else
4906   \Hy@pdfnewwindowsettrue
4907   \Hy@pdfnewwindowtrue
4908 \fi
4909 }

```

Option ‘pdfremotestartview’.

```

4910 \define@key{href}{pdfremotestartview}{%
4911   \setkeys{Hyp}{pdfremotestartview={#1}}%
4912 }

```

Option ‘pdfnewwindow’.

```

4913 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4914 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4915 \newif\ifHy@href@ismap
4916 \define@key{href}{ismap}[true]{%
4917   \ltx@ifundefined{Hy@href@ismap#1}{%
4918     \Hy@Error{%
4919       Invalid value (#1) for key ‘ismap’.\MessageBreak
4920       Permitted values are ‘true’ or ‘false’.\MessageBreak
4921       Ignoring ‘ismap’%
4922     }\@ehc
4923   }{%
4924     \csname Hy@href@ismap#1\endcsname
4925   }%
4926 }

```

Option ‘nextactionraw’.

```

4927 \let\Hy@href@nextactionraw\@empty
4928 \define@key{href}{nextactionraw}{%
4929   \edef\Hy@href@nextactionraw{#1}%
4930   \ifx\Hy@href@nextactionraw\@empty
4931   \else
4932     \Hy@Match\Hy@href@nextactionraw{%
4933       ^(\HyPat@ObjRef/|<<.*[/S[/|. +>>|)%

```

```

4934 \[( ?\HyPat@ObjRef/|<<.*[/S[ /.+>>)+ ?])$%
4935 }{}{%
4936 \Hy@Warning{Invalid value for 'nextactionraw':\MessageBreak
4937 \Hy@href@nextactionraw\MessageBreak
4938 The action is discarded%
4939 }%
4940 }%
4941 \ifx\Hy@href@nextactionraw\@empty
4942 \else
4943 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4944 \fi
4945 \fi
4946 }
4947 \def\HyPat@ObjRef/{.+}

```

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

```

4948 \RequirePackage{url}
4949 \let\HyOrg@url\url
4950 \def\Hurl{\begingroup \Url}
4951 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4952 \def\nolinkurl@#1{\Hurl{#1}}
4953 \DeclareRobustCommand*\url{\hyper@normalise:url@}
4954 \def:url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4955 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4956 \providecommand\hyper@image[2]{#2}
4957 \def\hypertarget#1#2{%
4958 \ifHy@nesting
4959 \hyper@@anchor{#1}{#2}%
4960 \else
4961 \hyper@@anchor{#1}{\relax}#2%
4962 \fi
4963 }

```

`\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.

```

4964 \DeclareRobustCommand*\hyperref{%
4965 \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4966 }
4967 \def\Hy@babelnormalise#1[#2]{%
4968 \begingroup
4969 \Hy@safe@activetrue
4970 \edef\Hy@tempa{%
4971 \endgroup
4972 \noexpand#1[{#2}]%
4973 }%
4974 \Hy@tempa
4975 }
4976 \def\@hyperref{\hyper@normalise\@hyperref}
4977 \def\@hyperref#1#2#3{%
4978 \edef\ref@one{\ifx\#2\#2\else#2.\fi#3}%
4979 \expandafter\tryhyper@link\ref@one\{#1}%
4980 }

```

```

4981 \def\tryhyper@link#1\#2{%
4982   \hyper@@link{#2}{#1}%
4983 }

4984 \def\hyperdef{\@ifnextchar[{\label@hyperdef}{\@hyperdef}}
4985 \def\@hyperdef#1#2#3{%, category, name, text
4986   \ifx\#1\%
4987     \def\Hy@AnchorName{#2}%
4988   \else
4989     \def\Hy@AnchorName{#1.#2}%
4990   \fi
4991   \ifHy@nesting
4992     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4993   \else
4994     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4995   \fi
4996 }

```

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.

```

4997 \def\label@hyperref[#1]{%
4998   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4999 }%
5000 \def\label@@hyperref#1#2#3{%
5001   \ifx#1\relax
5002     \protect\G@refundefinedtrue
5003     \@latex@warning{%
5004       Hyper reference ‘#2’ on page \thepage \space undefined%
5005     }%
5006     \begingroup
5007       #3%
5008     \endgroup
5009   \else
5010     \hyper@@link{\expandafter\@fifthoffive#1}%
5011     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5012   \fi
5013 }
5014 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5015                               % anchor text
5016   \@bsphack
5017   \ifx\#2\%
5018     \def\Hy@AnchorName{#3}%
5019   \else
5020     \def\Hy@AnchorName{#2.#3}%
5021   \fi
5022   \if@filesw
5023     \protected@write\@auxout{}{%
5024       \string\newlabel{#1}{\{ }\}{\{ }\Hy@AnchorName}{ }\}%
5025     }%
5026   \fi
5027   \@esphack
5028   \ifHy@nesting
5029     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5030   \else
5031     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5032   \fi
5033 }

```

## 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.

```
5034 \def\hyper@@link{\let\Hy@reserved@a\relax
5035 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5036 }
5037 \def\hyper@link@[#1]#2#3#4{%
5038 \begingroup
5039 \protected@edef\Hy@tempa{#2}%
5040 \Hy@safe@activetrue
5041 \edef\x{#3}%
5042 \ifx\Hy@tempa\@empty
5043 \toks0{\hyper@link{#1}}%
5044 \else
5045 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
5046 \fi
5047 \toks2{%
5048 \Hy@safe@activesfalse
5049 #4%
5050 }%
5051 \edef\Hy@tempa{\the\toks2}%
5052 \edef\x{\endgroup
5053 \ifx\Hy@tempa\@empty
5054 \noexpand\Hy@Warning{Suppressing empty link}%
5055 \else
5056 \the\toks0 \x\the\toks2}%
5057 \fi
5058 }%
5059 \x
5060 }
```

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.

```
5061 \def\hyper@readexternallink#1\{#2#3#4{%
5062 \begingroup
5063 \let\\\relax
5064 \expandafter\endgroup
5065 \expandafter\@hyper@@readexternallink#1\{#2}{#3}{#4}%
5066 }
5067 \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.



```

5068 \@hyper@readexternallink{#2}{#3}{#4}{#1}::\{#1}%
5069 }

```

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

```

5070 \def\@pdftempwordfile{file}%
5071 \def\@pdftempwordrun{run}%
5072 \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:

```

5073 \ifx\\#6\\%
5074 \@hyper@linkfile file:#7\\{#3}{#2}{#7}%
5075 \else
5076 \ifx\\#4\\%
5077 \@hyper@linkfile file:#7\\{#3}{#2}{#7}%
5078 \else

```

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

```

5079 \def\@pdftempa{#4}%
5080 \ifx\@pdftempa\@pdftempwordfile
5081 \@hyper@linkfile#7\\{#3}{#2}{#7}%
5082 \else

```

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

```

5083 \ifx\@pdftempa\@pdftempwordrun
5084 \ifHy@pdfa
5085 \Hy@Error{%
5086 PDF/A: Launch action is prohibited%
5087 }\@ehc
5088 \begingroup
5089 \leavevmode
5090 #2%
5091 \endgroup
5092 \else
5093 \@hyper@launch#7\\{#3}{#2}%
5094 \fi
5095 \else

```

otherwise its a URL

```

5096 \hyper@linkurl{#3}{#7\ifx\\#2\\%\\else\hyper@hash#2\fi}%
5097 \fi
5098 \fi
5099 \fi
5100 \fi
5101 }

```

By default, turn run: into file:

```

5102 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
5103 \hyper@linkurl{#2}{%
5104 \Hy@linkfileprefix
5105 #1%
5106 \ifx\\#3\\%
5107 \else
5108 \hyper@hash
5109 #3%

```

```

5110 \fi
5111 }%
5112 }

```

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

```

5113 \def\@hyper@linkfile file:#1\|#2#3#4{%
5114     %file url,link string, name, original uri
5115     \filename@parse{#1}%
5116     \ifx\filename@ext\relax
5117     \edef\filename@ext{\XR@ext}%
5118     \fi
5119     \def\use@file{\filename@area\filename@base.\filename@ext}%
5120     \Hy@ifStringEndsWith\filename@ext\XR@ext{%
5121         \hyper@linkfile{#2}{\use@file}{#3}%
5122     }{%
5123         \ifx\@baseurl\@empty
5124             \hyper@linkurl{#2}{%
5125                 #4\ifx\|#3\\\else\hyper@hash#3\fi
5126             }%
5127         \else
5128             \hyper@linkurl{#2}{\use@file\ifx\|#3\\\else\hyper@hash#3\fi}%
5129         \fi
5130     }%
5131 }

5132 \def\Hy@ifStringEndsWith#1#2{%
5133     \begingroup
5134     \edef\x{#1}%
5135     \@onelevel@sanitize\x
5136     \edef\x{.\x}%
5137     \edef\y{#2}%
5138     \@onelevel@sanitize\y
5139     \edef\y{.\y}%
5140     \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5141         \endgroup
5142         \ifx\relax##2\relax
5143             \expandafter\ltx@secondoftwo
5144         \else
5145             \expandafter\ltx@firstoftwo
5146         \fi
5147     }%
5148     \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5149 }

5150 \def\Hy@StringLocalhost{localhost}
5151 \@onelevel@sanitize\Hy@StringLocalhost
5152 \def\Hy@CleanupFile#1{%
5153     \edef#1{#1}%
5154     \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5155 }
5156 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5157     \begingroup
5158     \toks@{\endgroup}%
5159     \def\x{#1}%
5160     \ifx\x\@empty
5161         \def\x{#2}%
5162     \ifx\x\@empty
5163         \toks@{\endgroup\def#5{/#3}}%

```

```

5164 \else
5165 \@onelevel@sanitize\x
5166 \ifx\x\Hy@StringLocalhost
5167 \toks@{\endgroup\def#5{/#3}}%
5168 \fi
5169 \fi
5170 \fi
5171 \the\toks@
5172 }

```

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.

```

5173 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5174 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5175 \ifx\#1\%
5176 #2\Hy@Warning{Ignoring empty anchor}%
5177 \else
5178 \def\anchor@spot{#2#3}%
5179 \let\put@me@back\@empty
5180 \ifx\relax#2\relax
5181 \else
5182 \ifHy@nesting
5183 \else
5184 \ifcat a\noexpand#2\relax
5185 \else
5186 \ifcat 0\noexpand#2 \relax
5187 \else
5188 % \typeout{Anchor start is not alphanumeric %
5189 % on input line\the\inputlineno%
5190 % }%
5191 \let\anchor@spot\@empty
5192 \def\put@me@back{#2#3}%
5193 \fi
5194 \fi
5195 \fi
5196 \fi
5197 \ifHy@activeanchor
5198 \anchor@spot
5199 \else
5200 \hyper@anchor{#1}%
5201 \fi
5202 \expandafter\put@me@back
5203 \fi
5204 \let\anchor@spot\@empty
5205 }
5206 \let\anchor@spot\ltx@empty

```

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

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

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

```
5207 \let\htmladdimg\hyperimage
5208 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5209 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5210 \def\htmlref#1#2{% anchor text, label
5211   \label@hyperref{#2}{#1}%
5212 }
```

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.

```
5213 \def\@@latextohtmlX{%
5214   \let\hhyperref\hyperref
5215   \def\hyperref##1##2##3##4{% anchor text for HTML
5216     % text to print before label in print
5217     % label
5218     % post-label text in print
5219     ##2\ref{##4}##3%
5220   }%
5221 }
```

## 19 Forms creation

Allow for creation of PDF or HTML forms. The effects here are limited somewhat by the need to support both output formats, so it may not be as clever as something which only wants to make PDF forms.

I (Sebastian) could not have started this without the encouragement of T V Raman.

### 19.1 Field flags

The field flags are organized in a bit set.

```
5222 \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
5223 \def\HyField@NewFlag#1#2{%
5224   \lowercase{\HyField@NewOption{#2}}%
5225   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5226 }
```

```
\HyField@NewFlagOnly
5227 \def\HyField@NewFlagOnly#1#2{%
5228   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5229 }
```

\HyField@NewOption #1: option name

```
5230 \def\HyField@NewOption#1{%
5231   \expandafter\newif\csname ifFld@#1\endcsname
5232   \define@key{Field}{#1}[true]{%
5233     \lowercase{\Field@boolkey{##1}}{#1}%
5234   }%
5235 }
```

\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

```
5236 \def\HyField@NewBitsetFlag#1#2#3#4{%
5237   \begingroup
5238     \count@=#4\relax
5239     \advance\count@\m@ne
5240     \def\x###1{%
5241       \endgroup
5242       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5243       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5244         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5245           (\number#4) #2%
5246         }%
5247       \else
5248         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5249           \csname HyField@#3@#1\endcsname
5250           /#2%
5251         }%
5252       \fi
5253     }%
5254   \expandafter\x\expandafter{\the\count@}%
5255 }
```

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

```
5256 \def\HyField@UseFlag#1#2{%
5257   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5258 }
```

\HyField@@UseFlag

```
5259 \def\HyField@@UseFlag#1#2{%
5260   \bitsetSetValue{HyField@#2}{%
5261     \csname HyField@#2@#1\endcsname
5262   }{%
5263     \csname ifFld@#1\endcsname 1\else 0\fi
5264   }%
5265 }
```

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

```
5266 \def\HyField@SetFlag#1#2{%
5267   \lowercase{\HyField@@SetFlag{#2}}{#1}%
5268 }
```

\HyField@@SetFlag

```
5269 \def\HyField@@SetFlag#1#2{%
5270   \bitsetSetValue{HyField@#2}{%
```

```

5271 \csname HyField@#2@#1\endcsname
5272 }{1}%
5273 }

```

\HyField@PrintFlags

```

5274 \def\HyField@PrintFlags#1#2{%
5275 \ifHy@verbose
5276 \begingroup
5277 \let\Hy@temp\@empty
5278 \let\MessageBreak\relax
5279 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5280 \bitsetGetSetBitList{HyField@#1}\do{%
5281 \edef\Hy@temp{%
5282 \Hy@temp
5283 \csname HyField@#1@\x\endcsname\MessageBreak
5284 }%
5285 }%
5286 \edef\x{\endgroup
5287 \noexpand\Hy@Info{%
5288 Field flags: %
5289 \expandafter\ifx\@car#1\@nil S\else/\fi
5290 #1 %
5291 \bitsetGetDec{HyField@#1} %
5292 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5293 \Hy@temp
5294 for #2%
5295 }%
5296 }\x
5297 \fi
5298 }

```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5299 \HyField@NewFlag{Ff}{ReadOnly}{1}
5300 \HyField@NewFlag{Ff}{Required}{2}
5301 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5302 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5303 \HyField@NewFlag{Ff}{Radio}{16}
5304 \HyField@NewFlag{Ff}{Pushbutton}{17}
5305 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5306 \HyField@NewFlag{Ff}{Multiline}{13}
5307 \HyField@NewFlag{Ff}{Password}{14}
5308 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5309 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5310 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5311 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5312 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5313 \HyField@NewFlag{Ff}{Combo}{18}
5314 \HyField@NewFlag{Ff}{Edit}{19}
5315 \HyField@NewFlag{Ff}{Sort}{20}
5316 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4

```

```

5317 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5318 \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.

```

5319 \newif\ifFld@popdown
5320 \define@key{Field}{popdown}[true]{%
5321   \lowercase{\Field@boolkey{#1}}{popdown}%
5322 }

```

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.

```

5323 \HyField@NewFlag{F}{Invisible}{1}
5324 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5325 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5326 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5327 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5328 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5329 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5330 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5331 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5332 \ifHy@pdfa
5333   \def\HyField@PDFAFldWarning#1#2{%
5334     \Hy@Warning{%
5335       PDF/A: Annotation flag ‘#1’ must\MessageBreak
5336       be set to ‘#2’%
5337     }%
5338   }%
5339   \Fld@invisiblefalse
5340   \def\Fld@invisibletrue{%
5341     \HyField@PDFAFldWarning{invisible}{false}%
5342   }%
5343   \Fld@hiddenfalse
5344   \def\Fld@hiddenttrue{%
5345     \HyField@PDFAFldWarning{hidden}{false}%
5346   }%
5347   \Fld@printtrue
5348   \def\Fld@printfalse{%
5349     \HyField@PDFAFldWarning{print}{true}%
5350   }%
5351   \Fld@nozoomtrue
5352   \def\Fld@nozoomfalse{%
5353     \HyField@PDFAFldWarning{nozoom}{true}%
5354   }%
5355   \Fld@norotatetrue
5356   \def\Fld@norotatefalse{%
5357     \HyField@PDFAFldWarning{norotate}{true}%
5358   }%
5359   \Fld@noviewfalse
5360   \def\Fld@noviewtrue{%
5361     \HyField@PDFAFldWarning{noview}{false}%
5362   }%
5363 \fi

```

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

```

5364 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5365 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5366 \HyField@NewFlag{Submit}{GetMethod}{4}
5367 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5368 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5369 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5370 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5371 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5372 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5373 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5374 \HyField@NewFlag{Submit}{ExclFKey}{12}
5375 \HyField@NewFlag{Submit}{EmbedForm}{14}

5376 \define@key{Field}{export}{%
5377   \lowercase{\def\Hy@temp{#1}}%
5378   \@ifundefined{Fld@export@\Hy@temp}{%
5379     \@onelevel@sanitize\Hy@temp
5380     \Hy@Error{%
5381       Unknown export format '\Hy@temp'.\MessageBreak
5382       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5383     }}\@ehc
5384   }{%
5385     \let\Fld@export\Hy@temp
5386   }%
5387 }
5388 \def\Fld@export{fdf}
5389 \@namedef{Fld@export@fdf}{0}%
5390 \@namedef{Fld@export@html}{1}%
5391 \@namedef{Fld@export@xfdf}{2}%
5392 \@namedef{Fld@export@pdf}{3}%

```

### 19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5393 \def\HyField@FlagsSubmit{%
5394   \bitsetReset{HyField@Submit}%
5395   \ifcase\@nameuse{Fld@export@\Fld@export} %
5396     % FDF
5397     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5398     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5399     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5400     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5401     \HyField@UseFlag{Submit}{CanonicalFormat}%
5402     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5403     \HyField@UseFlag{Submit}{ExclFKey}%
5404     \HyField@UseFlag{Submit}{EmbedForm}%
5405   \or % HTML
5406     \HyField@SetFlag{Submit}{ExportFormat}%
5407     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5408     \HyField@UseFlag{Submit}{GetMethod}%
5409     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5410     \HyField@UseFlag{Submit}{CanonicalFormat}%
5411   \or % XFDF
5412     \HyField@SetFlag{Submit}{XFDF}%
5413     \HyField@UseFlag{Submit}{IncludeNoValueFields}%

```



```

5414 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5415 \HyField@UseFlag{Submit}{CanonicalFormat}%
5416 \or % PDF
5417 \HyField@SetFlag{Submit}{SubmitPDF}%
5418 \HyField@UseFlag{Submit}{GetMethod}%
5419 \fi
5420 \HyField@PrintFlags{Submit}{submit button field}%
5421 \bitsetIsEmpty{HyField@Submit}{%
5422 \let\Fld@submitflags\ltx@empty
5423 }{%
5424 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5425 }%
5426 }

```

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5427 \def\HyField@FlagsAnnot#1{%
5428 \bitsetReset{HyField@F}%
5429 \HyField@UseFlag{F}{Invisible}%
5430 \HyField@UseFlag{F}{Hidden}%
5431 \HyField@UseFlag{F}{Print}%
5432 \HyField@UseFlag{F}{NoZoom}%
5433 \HyField@UseFlag{F}{NoRotate}%
5434 \HyField@UseFlag{F}{NoView}%
5435 \HyField@UseFlag{F}{Locked}%
5436 \HyField@UseFlag{F}{ToggleNoView}%
5437 \HyField@UseFlag{F}{LockedContents}%
5438 \HyField@PrintFlags{F}{#1}%
5439 \bitsetIsEmpty{HyField@F}{%
5440 \let\Fld@annotflags\ltx@empty
5441 }{%
5442 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5443 }%
5444 }

```

### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5445 \def\HyField@FlagsPushButton{%
5446 \HyField@FlagsAnnot{push button field}%
5447 \bitsetReset{HyField@Ff}%
5448 \HyField@UseFlag{Ff}{ReadOnly}%
5449 \HyField@UseFlag{Ff}{Required}%
5450 \HyField@UseFlag{Ff}{NoExport}%
5451 \HyField@SetFlag{Ff}{Pushbutton}%
5452 \HyField@PrintFlags{Ff}{push button field}%
5453 \bitsetIsEmpty{HyField@Ff}{%
5454 \let\Fld@flags\ltx@empty
5455 }{%
5456 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5457 }%
5458 }

```

### 19.1.5 Check box field

\HyField@FlagsCheckBox

```

5459 \def\HyField@FlagsCheckBox{%
5460   \HyField@FlagsAnnot{check box field}%
5461   \bitsetReset{HyField@Ff}%
5462   \HyField@UseFlag{Ff}{ReadOnly}%
5463   \HyField@UseFlag{Ff}{Required}%
5464   \HyField@UseFlag{Ff}{NoExport}%
5465   \HyField@PrintFlags{Ff}{check box field}%
5466   \bitsetIsEmpty{HyField@Ff}{%
5467     \let\Fld@flags\ltx@empty
5468   }{%
5469     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5470   }%
5471 }

```

### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5472 \def\HyField@FlagsRadioButton{%
5473   \HyField@FlagsAnnot{radio button field}%
5474   \bitsetReset{HyField@Ff}%
5475   \HyField@UseFlag{Ff}{ReadOnly}%
5476   \HyField@UseFlag{Ff}{Required}%
5477   \HyField@UseFlag{Ff}{NoExport}%
5478   \HyField@UseFlag{Ff}{NoToggleToOff}%
5479   \HyField@SetFlag{Ff}{Radio}%
5480   \HyField@UseFlag{Ff}{RadiosInUnison}%
5481   \HyField@PrintFlags{Ff}{radio button field}%
5482   \bitsetIsEmpty{HyField@Ff}{%
5483     \let\Fld@flags\ltx@empty
5484   }{%
5485     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5486   }%
5487 }

```

### 19.1.7 Text fields

\HyField@FlagsText

```

5488 \def\HyField@FlagsText{%
5489   \HyField@FlagsAnnot{text field}%
5490   \bitsetReset{HyField@Ff}%
5491   \HyField@UseFlag{Ff}{ReadOnly}%
5492   \HyField@UseFlag{Ff}{Required}%
5493   \HyField@UseFlag{Ff}{NoExport}%
5494   \HyField@UseFlag{Ff}{Multiline}%
5495   \HyField@UseFlag{Ff}{Password}%
5496   \HyField@UseFlag{Ff}{FileSelect}%
5497   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5498   \HyField@UseFlag{Ff}{DoNotScroll}%
5499   \ifFld@comb
5500     \ifcase0\ifFld@multiline
5501       \else\ifFld@password
5502       \else\ifFld@fileselect
5503       \else 1\fi\fi\fi\relax
5504     \Hy@Error{%
5505       Field option ‘comb’ cannot used together with\MessageBreak
5506       ‘multiline’, ‘password’, or ‘fileselect’%
5507     }\@ehc

```

```

5508 \else
5509 \HyField@UseFlag{Ff}{Comb}%
5510 \fi
5511 \fi
5512 \HyField@UseFlag{Ff}{RichText}%
5513 \HyField@PrintFlags{Ff}{text field}%
5514 \bitsetIsEmpty{HyField@Ff}{%
5515 \let\Fld@flags\ltx@empty
5516 }{%
5517 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5518 }%
5519 }

```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```

5520 \def\HyField@FlagsChoice{%
5521 \HyField@FlagsAnnot{choice field}%
5522 \bitsetReset{HyField@Ff}%
5523 \HyField@UseFlag{Ff}{ReadOnly}%
5524 \HyField@UseFlag{Ff}{Required}%
5525 \HyField@UseFlag{Ff}{NoExport}%
5526 \HyField@UseFlag{Ff}{Combo}%
5527 \ifFld@combo
5528 \HyField@UseFlag{Ff}{Edit}%
5529 \fi
5530 \HyField@UseFlag{Ff}{Sort}%
5531 \HyField@UseFlag{Ff}{MultiSelect}%
5532 \ifFld@combo
5533 \ifFld@edit
5534 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5535 \fi
5536 \fi
5537 \HyField@UseFlag{Ff}{CommitOnSelChange}%
5538 \HyField@PrintFlags{Ff}{choice field}%
5539 \bitsetIsEmpty{HyField@Ff}{%
5540 \let\Fld@flags\ltx@empty
5541 }{%
5542 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5543 }%
5544 }

```

## 19.2 Choice field

\HyField@PDFChoices #1: list of choices in key value syntax, key = exported name, value = displayed text.

Input: \Fld@default, \Fld@value, \ifFld@multiselect

Result: \Fld@choices with entries: /Opt, /DV, /V, /I.

```

5545 \def\HyField@PDFChoices#1{%
5546 \begingroup
5547 \global\let\Fld@choices\ltx@empty
5548 \let\HyTmp@optlist\ltx@empty
5549 \let\HyTmp@optitem\relax
5550 \count@=0 %
5551 \kv@parse{#1}{%
5552 \Hy@pdfstringdef\kv@key\kv@key

```

```

5553 \ifx\kv@value\relax
5554 \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5555 \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5556 \else
5557 \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5558 \fi
5559 \else
5560 \Hy@pdfstringdef\kv@value\kv@value
5561 \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5562 \fi
5563 \edef\HyTmp@optlist{%
5564 \HyTmp@optlist
5565 \HyTmp@optitem{the\count@}{\kv@key}0%
5566 }%
5567 \advance\count@ by 1 %
5568 \@gobbletwo
5569 }%
5570 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5571 \ifFld@multiselect
5572 \HyField@@PDFChoices{DV}\Fld@default
5573 \HyField@@PDFChoices{V}\Fld@value
5574 \else
5575 \ifx\Fld@default\relax
5576 \else
5577 \pdfstringdef\Hy@gtemp\Fld@default
5578 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5579 \fi
5580 \ifx\Fld@value\relax
5581 \else
5582 \pdfstringdef\Hy@gtemp\Fld@value
5583 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5584 \fi
5585 \fi
5586 \endgroup
5587 }

```

\HyField@@PDFChoices

```

5588 \def\HyField@@PDFChoices#1#2{%
5589 \ifx#2\relax
5590 \else
5591 \count@=0 %
5592 \def\HyTmp@optitem##1##2##3{%
5593 \def\HyTmp@key{##2}%
5594 \ifx\HyTmp@key\Hy@gtemp
5595 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5596 \HyTmp@optlist
5597 \HyTmp@optitem{##1}{##2}1%
5598 }%
5599 \let\HyTmp@found=Y%
5600 \else
5601 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5602 \HyTmp@optlist
5603 \HyTmp@optitem{##1}{##2}##3%
5604 }%
5605 \fi
5606 }%
5607 \expandafter\comma@parse\expandafter{#2}{%
5608 \pdfstringdef\Hy@gtemp\comma@entry

```

```

5609 \let\HyTmp@found=N %
5610 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5611 \HyTmp@optlist
5612 \ifx\HyTmp@found Y%
5613 \advance\count@ by 1 %
5614 \else
5615 \@onelevel@sanitize\comma@entry
5616 \PackageWarning{hyperref}{%
5617 \string\ChoiceBox: Ignoring value '\comma@entry',%
5618 \MessageBreak
5619 it cannot be found in the choices%
5620 }%
5621 \fi
5622 \@gobble
5623 }%
5624 \def\HyTmp@optitem##1##2##3{%
5625 \ifnum##3=1 %
5626 (##2)%
5627 \fi
5628 }%
5629 \ifcase\count@
5630 \or
5631 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5632 \else
5633 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5634 \ifx#1V%
5635 \def\HyTmp@optitem##1##2##3{%
5636 \ifnum##3=1 %
5637 \@firstofone{ ##1}%
5638 \fi
5639 }%
5640 \edef\HyTmp@optlist{\HyTmp@optlist}%
5641 \xdef\Fld@choices{%
5642 \Fld@choices
5643 /I\expandafter\@firstofone\HyTmp@optlist}%
5644 }%
5645 \fi
5646 \fi
5647 \fi
5648 }

```

## 19.3 Forms

\HyField@SetKeys

```

5649 \def\HyField@SetKeys{%
5650 \kvsetkeys{Field}%
5651 }

5652 \newif\ifFld@checked
5653 \newif\ifFld@disabled
5654 \Fld@checkedfalse
5655 \Fld@disabledfalse
5656 \newcount\Fld@menulength
5657 \newdimen\Field@Width
5658 \newdimen\Fld@charsize
5659 \Fld@charsize=10\p@
5660 \def\Fld@maxlen{0}

```

```

5661 \def\Fld@align{0}
5662 \def\Fld@color{0 0 0 rg}
5663 \def\Fld@bcolor{1 1 1}
5664 \def\Fld@bordercolor{1 0 0}
5665 \def\Fld@bordersep{1\p@}
5666 \def\Fld@borderwidth{1}
5667 \def\Fld@borderstyle{S}
5668 \def\Fld@cbsymbol{4}
5669 \def\Fld@radiosymbol{H}
5670 \def\Fld@rotation{0}
5671 \def\Fld@Form{\@ifnextchar{\@Form}{\@Form[]}}
5672 \def\endForm{\@endForm}
5673 \newif\ifForm@html
5674 \Form@htmlfalse
5675 \def\Fld@boolkey#1#2{%
5676   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5677 }
5678 \define@key{Form}{action}{%
5679   \hyper@normalise\Hy@DefFormAction{#1}%
5680 }
5681 \def\Hy@DefFormAction{\def\Fld@action}
5682 \def\enc@html{html}
5683 \define@key{Form}{encoding}{%
5684   \def\Hy@tempa{#1}%
5685   \ifx\Hy@tempa\enc@html
5686     \Form@htmltrue
5687     \def\Fld@export{html}%
5688   \else
5689     \Hy@Warning{%
5690       Form 'encoding' key with \MessageBreak
5691       unknown value '#1'%
5692     }%
5693     \Form@htmlfalse
5694   \fi
5695 }
5696 \define@key{Form}{method}{%
5697   \lowercase{\def\Hy@temp{#1}}%
5698   \@ifundefined{Form@method@\Hy@temp}{%
5699     \@onelevel@sanitize\Hy@temp
5700     \Hy@Error{%
5701       Unknown method '\Hy@temp'.\MessageBreak
5702       Known values are 'post' and 'get'%
5703     } \@ehc
5704   }{%
5705     \let\Fld@method\Hy@temp
5706     \ifcase\@nameuse{Form@method@\Hy@temp} %
5707       \Fld@getmethodfalse
5708     \else
5709       \Fld@getmethodtrue
5710     \fi
5711   }%
5712 }
5713 \def\Fld@method{}
5714 \@namedef{Form@method@post}{0}
5715 \@namedef{Form@method@get}{1}
5716 \newif\ifHyField@NeedAppearances
5717 \def\HyField@NeedAppearancesfalse{%

```

```

5718 \global\let\ifHyField@NeedAppearances\iffalse
5719 }
5720 \def\HyField@NeedAppearancetrue{%
5721 \global\let\ifHyField@NeedAppearances\iftrue
5722 }
5723 \HyField@NeedAppearancetrue
5724 \define@key{Form}{NeedAppearances}[true]{%
5725 \edef\Hy@tempa{#1}%
5726 \ifx\Hy@tempa\Hy@true
5727 \HyField@NeedAppearancetrue
5728 \else
5729 \ifx\Hy@tempa\Hy@false
5730 \HyField@NeedAppearancesfalse
5731 \else
5732 \Hy@Error{%
5733 Unexpected value '\Hy@tempa'\MessageBreak
5734 of option 'NeedAppearances' instead of\MessageBreak
5735 'true' or 'false'%
5736 }\@ehc
5737 \fi
5738 \fi
5739 }
5740 \def\Field@boolkey#1#2{%
5741 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5742 }
5743 \ifHy@texht
5744 \newtoks\Field@toks
5745 \Field@toks={ }%
5746 \def\Field@addtoks#1#2{%
5747 \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5748 \@processme
5749 }%
5750 \else
5751 \def\Hy@WarnHTMLFieldOption#1{%
5752 \Hy@Warning{%
5753 HTML field option '#1'\MessageBreak
5754 is ignored%
5755 }%
5756 }%
5757 \fi
5758 \def\Fld@checkequals#1=#2=#3\\{%
5759 \def\@currDisplay{#1}%
5760 \ifx\\#2\\%
5761 \def\@currValue{#1}%
5762 \else
5763 \def\@currValue{#2}%
5764 \fi
5765 }
5766 \define@key{Field}{loc}{%
5767 \def\Fld@loc{#1}%
5768 }
5769 \define@key{Field}{checked}[true]{%
5770 \lowercase{\Field@boolkey{#1}}{checked}%
5771 }
5772 \define@key{Field}{disabled}[true]{%
5773 \lowercase{\Field@boolkey{#1}}{disabled}%
5774 }

```

```

5775 \ifHy@texht
5776   \define@key{Field}{accesskey}{%
5777     \Field@addtoks{accesskey}{#1}%
5778   }%
5779   \define@key{Field}{tabkey}{%
5780     \Field@addtoks{tabkey}{#1}%
5781   }%
5782 \else
5783   \define@key{Field}{accesskey}{%
5784     \Hy@WarnHTMLFieldOption{accesskey}%
5785   }%
5786   \define@key{Field}{tabkey}{%
5787     \Hy@WarnHTMLFieldOption{tabkey}%
5788   }%
5789 \fi
5790 \define@key{Field}{name}{%
5791   \def\Fld@name{#1}%
5792 }
5793 \let\Fld@altname\relax
5794 \define@key{Field}{altname}{%
5795   \def\Fld@altname{#1}%
5796 }
5797 \let\Fld@mappingname\relax
5798 \define@key{Field}{mappingname}{%
5799   \def\Fld@mappingname{#1}%
5800 }
5801 \define@key{Field}{width}{%
5802   \def\Fld@width{#1}%
5803   \Field@Width#1\setbox0=\hbox{m}%
5804 }
5805 \define@key{Field}{maxlen}{%
5806   \def\Fld@maxlen{#1}%
5807 }
5808 \define@key{Field}{menulength}{%
5809   \Fld@menulength=#1\relax
5810 }
5811 \define@key{Field}{height}{%
5812   \def\Fld@height{#1}%
5813 }
5814 \define@key{Field}{charsize}{%
5815   \setlength{\Fld@charsize}{#1}%
5816 }
5817 \define@key{Field}{borderwidth}{%
5818   \Hy@defaultbp\Fld@borderwidth{#1}%
5819 }
5820 \def\Hy@defaultbp#1#2{%
5821   \begingroup
5822     \afterassignment\Hy@defaultbpAux
5823     \dimen@=#2bp\relax{#1}{#2}%
5824 }
5825 \begingroup\expandafter\expandafter\expandafter\endgroup
5826 \expandafter\ifx\csname dimexpr\endcsname\relax
5827   \def\Hy@defaultbpAux#1\relax#2#3{%
5828     \ifx!#1!%
5829       \endgroup
5830       \def#2{#3}%
5831     \else

```



```

5832 \dimen@=.99626\dimen@
5833 \edef\x{\endgroup
5834 \def\noexpand#2{%
5835 \strip@pt\dimen@
5836 }%
5837 }\x
5838 \fi
5839 }%
5840 \else
5841 \def\Hy@defaultbpAux#1\relax#2#3{%
5842 \ifx!#1!%
5843 \endgroup
5844 \def#2{#3}%
5845 \else
5846 \edef\x{\endgroup
5847 \def\noexpand#2{%
5848 \strip@pt\dimexpr\dimen@*800/803\relax
5849 }%
5850 }\x
5851 \fi
5852 }%
5853 \fi
5854 \define@key{Field}{borderstyle}{%
5855 \let\Hy@temp\Fld@borderstyle
5856 \def\Fld@borderstyle{#1}%
5857 \Hy@Match\Fld@borderstyle{%
5858 ~[SDBIU]$%
5859 }~}{%
5860 \Hy@Warning{%
5861 Invalid value '\@pdfborderstyle'\MessageBreak
5862 for option 'pdfborderstyle'. Valid values:\MessageBreak
5863 \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
5864 \space\space I (Inset), U (Underline)\MessageBreak
5865 Option setting is ignored%
5866 }%
5867 \let\Fld@borderstyle\Hy@temp
5868 }%
5869 }
5870 \define@key{Field}{bordersep}{%
5871 \def\Fld@bordersep{#1}%
5872 }
5873 \define@key{Field}{default}{%
5874 \def\Fld@default{#1}%
5875 }
5876 \define@key{Field}{align}{%
5877 \def\Fld@align{#1}%
5878 }
5879 \define@key{Field}{value}{%
5880 \def\Fld@value{#1}%
5881 }
5882 \define@key{Field}{checkboxsymbol}{%
5883 \Fld@DingDef\Fld@cbsymbol{#1}%
5884 }
5885 \define@key{Field}{radiosymbol}{%
5886 \Fld@DingDef\Fld@radiosymbol{#1}%
5887 }
5888 \def\Fld@DingDef#1#2{%

```

```

5889 \let\Fld@temp\ltx@empty
5890 \Fld@@DingDef#2\ding{ }\@nil
5891 \let#1\Fld@temp
5892 }
5893 \def\Fld@@DingDef#1\ding#2#3\@nil{%
5894 \expandafter\def\expandafter\Fld@temp\expandafter{%
5895 \Fld@temp
5896 #1%
5897 }%
5898 \ifx\#3\%
5899 \expandafter\@gobble
5900 \else
5901 \begingroup
5902 \lccode'0=#2\relax
5903 \lowercase{\endgroup
5904 \expandafter\def\expandafter\Fld@temp\expandafter{%
5905 \Fld@temp
5906 0%
5907 }%
5908 }%
5909 \expandafter\@firstofone
5910 \fi
5911 {%
5912 \Fld@@DingDef#3\@nil
5913 }%
5914 }

5915 \define@key{Field}{rotation}{%
5916 \def\Fld@rotation{#1}%
5917 }

5918 \define@key{Field}{backgroundcolor}{%
5919 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5920 }
5921 \define@key{Field}{bordercolor}{%
5922 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5923 }
5924 \define@key{Field}{color}{%
5925 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5926 }

5927 \let\Fld@onclick@code\ltx@empty
5928 \let\Fld@format@code\ltx@empty
5929 \let\Fld@validate@code\ltx@empty
5930 \let\Fld@calculate@code\ltx@empty
5931 \let\Fld@keystroke@code\ltx@empty
5932 \let\Fld@onfocus@code\ltx@empty
5933 \let\Fld@onblur@code\ltx@empty
5934 \let\Fld@onmousedown@code\ltx@empty
5935 \let\Fld@onmouseup@code\ltx@empty
5936 \let\Fld@onenter@code\ltx@empty
5937 \let\Fld@onexit@code\ltx@empty
5938 \def\Hy@temp#1{%
5939 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5940 }
5941 \def\Hy@@temp#1#2{%
5942 \ifHy@pdfa
5943 \define@key{Field}{#2}{%
5944 \Hy@Error{%

```

```

5945     PDF/A: Additional action '#2' is prohibited%
5946   }\@ehc
5947  }%
5948 \else
5949   \define@key{Field}{#2}{%
5950     \def#1{##1}%
5951   }%
5952 \fi
5953 }
5954 \Hy@temp{keystroke}
5955 \Hy@temp{format}
5956 \Hy@temp{validate}
5957 \Hy@temp{calculate}
5958 \Hy@temp{onfocus}
5959 \Hy@temp{onblur}
5960 \Hy@temp{onenter}
5961 \Hy@temp{onexit}
5962 \ifHy@texht
5963   \def\Hy@temp#1{%
5964     \define@key{Field}{#1}{%
5965       \Field@addtoks{#1}{##1}%
5966     }%
5967   }%
5968 \else
5969   \def\Hy@temp#1{%
5970     \define@key{Field}{#1}{%
5971       \Hy@WarnHTMLFieldOption{#1}%
5972     }%
5973   }%
5974 \fi
5975 \Hy@temp{ondblclick}
5976 \Hy@temp{onmousedown}
5977 \Hy@temp{onmouseup}
5978 \Hy@temp{onmouseover}
5979 \Hy@temp{onmousemove}
5980 \Hy@temp{onmouseout}
5981 \Hy@temp{onkeydown}
5982 \Hy@temp{onkeyup}
5983 \Hy@temp{onselect}
5984 \Hy@temp{onchange}
5985 \Hy@temp{onkeypress}
5986 \ifHy@texht
5987   \define@key{Field}{onclick}{%
5988     \Field@addtoks{onclick}{#1}%
5989   }%
5990 \else
5991   \ifHy@pdfa
5992     \define@key{Field}{onclick}{%
5993       \Hy@Error{%
5994         PDF/A: Action 'onclick' is prohibited%
5995       }\@ehc
5996     }%
5997   \else
5998     \define@key{Field}{onclick}{%
5999       \def\Fld@onclick@code{#1}%
6000     }%
6001   \fi

```

```

6002 \fi

6003 \DeclareRobustCommand\TextField{%
6004   \@ifnextchar[{\@TextField}{\@TextField[]}%
6005 }
6006 \DeclareRobustCommand\ChoiceMenu{%
6007   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6008 }
6009 \DeclareRobustCommand\CheckBox{%
6010   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6011 }
6012 \DeclareRobustCommand\PushButton{%
6013   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6014 }
6015 \DeclareRobustCommand\Gauge{%
6016   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6017 }
6018 \DeclareRobustCommand\Submit{%
6019   \@ifnextchar[{\@Submit}{\@Submit[]}%
6020 }
6021 \DeclareRobustCommand\Reset{%
6022   \@ifnextchar[{\@Reset}{\@Reset[]}%
6023 }
6024 \def\LayoutTextField#1#2{% label, field
6025   #1 #2%
6026 }
6027 \def\LayoutChoiceField#1#2{% label, field
6028   #1 #2%
6029 }
6030 \def\LayoutCheckField#1#2{% label, field
6031   #1 #2%
6032 }
6033 \def\LayoutPushButtonField#1{% button
6034   #1%
6035 }
6036 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6037 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6038 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6039 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6040 \def\MakeButtonField#1{%
6041   \sbox0{%
6042     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6043   }%
6044   \@tempdima\ht0 %
6045   \advance\@tempdima by \Fld@borderwidth bp %
6046   \advance\@tempdima by \Fld@borderwidth bp %
6047   \ht0\@tempdima
6048   \@tempdima\dp0 %
6049   \advance\@tempdima by \Fld@borderwidth bp %
6050   \advance\@tempdima by \Fld@borderwidth bp %
6051   \dp0\@tempdima
6052   \box0\relax
6053 }
6054 \def\DefaultHeightofSubmit{14pt}
6055 \def\DefaultWidthofSubmit{2cm}
6056 \def\DefaultHeightofReset{14pt}
6057 \def\DefaultWidthofReset{2cm}
6058 \def\DefaultHeightofCheckBox{\baselineskip}

```

```

6059 \def\DefaultWidthofCheckBox{\baselineskip}
6060 \def\DefaultHeightofChoiceMenu{\baselineskip}
6061 \def\DefaultWidthofChoiceMenu{\baselineskip}
6062 \def\DefaultHeightofText{\baselineskip}
6063 \def\DefaultHeightofTextMultiline{4\baselineskip}
6064 \def\DefaultWidthofText{3cm}
6065 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6066 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6067 \def\DefaultOptionsofPushButton{print}
6068 \def\DefaultOptionsofCheckBox{print}
6069 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

6070 \def\DefaultOptionsofListBox{print}
6071 \def\DefaultOptionsofComboBox{print,edit,sort}
6072 \def\DefaultOptionsofPopdownBox{print}
6073 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```

6074 \ifHy@hyperfigures
6075 \Hy@Info{Hyper figures ON}%
6076 \else
6077 \Hy@Info{Hyper figures OFF}%
6078 \fi
6079 \ifHy@nesting
6080 \Hy@Info{Link nesting ON}%
6081 \else
6082 \Hy@Info{Link nesting OFF}%
6083 \fi
6084 \ifHy@hyperindex
6085 \Hy@Info{Hyper index ON}%
6086 \else
6087 \Hy@Info{Hyper index OFF}%
6088 \fi
6089 \ifHy@backref
6090 \Hy@Info{backreferencing ON}%
6091 \else
6092 \Hy@Info{backreferencing OFF}%
6093 \fi
6094 \ifHy@colorlinks
6095 \Hy@Info{Link coloring ON}%
6096 \else
6097 \Hy@Info{Link coloring OFF}%
6098 \fi
6099 \ifHy@ocgcolorlinks
6100 \Hy@Info{Link coloring with OCG ON}%
6101 \else
6102 \Hy@Info{Link coloring with OCG OFF}%
6103 \fi
6104 \ifHy@pdfa
6105 \Hy@Info{PDF/A mode ON}%
6106 \else
6107 \Hy@Info{PDF/A mode OFF}%
6108 \fi

```

## 21 Low-level utility macros

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

```
6109 \edef\hyper@hash{\string#}  
6110 \edef\hyper@tilde{\string~}  
6111 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
6112 \def\@currentHref{Doc-Start}  
6113 \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.

```
6114 \Hy@AtBeginDocument{%  
6115   \Hy@pdfstringtrue  
6116   \PDF@SetupDoc  
6117   \let\PDF@SetupDoc\@empty  
6118   \Hy@DisableOption{pdfpagescrop}%  
6119   \Hy@DisableOption{pdfpagemode}%  
6120   \Hy@DisableOption{pdfnonfullscreenpagemode}%  
6121   \Hy@DisableOption{pdfdirection}%  
6122   \Hy@DisableOption{pdfviewarea}%  
6123   \Hy@DisableOption{pdfviewclip}%  
6124   \Hy@DisableOption{pdfprintarea}%  
6125   \Hy@DisableOption{pdfprintclip}%  
6126   \Hy@DisableOption{pdfprintscaling}%  
6127   \Hy@DisableOption{pdfduplex}%  
6128   \Hy@DisableOption{pdfpicktraybypdfsize}%  
6129   \Hy@DisableOption{pdfprintpagerange}%  
6130   \Hy@DisableOption{pdfnumcopies}%  
6131   \Hy@DisableOption{pdfstartview}%  
6132   \Hy@DisableOption{pdfstartpage}%  
6133   \Hy@DisableOption{pdftoolbar}%  
6134   \Hy@DisableOption{pdfmenubar}%  
6135   \Hy@DisableOption{pdfwindowui}%  
6136   \Hy@DisableOption{pdfwindow}%  
6137   \Hy@DisableOption{pdfcenterwindow}%  
6138   \Hy@DisableOption{pdfdisplaydoctitle}%  
6139   \Hy@DisableOption{pdfpagelayout}%  
6140   \Hy@DisableOption{pdflang}%  
6141   \Hy@DisableOption{baseurl}%  
6142   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi  
6143   \Hy@pdfstringfalse  
6144 }
```

Ignore star from referencing macros:

```
6145 \LetLtxMacro\NoHy@OrgRef\ref  
6146 \DeclareRobustCommand*{\ref}{%  
6147   \@ifstar\NoHy@OrgRef\NoHy@OrgRef  
6148 }  
6149 \LetLtxMacro\NoHy@OrgPageRef\pageref  
6150 \DeclareRobustCommand*{\pageref}{%  
6151   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef  
6152 }
```

## 22 Localized nullifying of package

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

```

6153 \def\NoHyper{%
6154   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6155   \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6156   \global\let\hyper@livelink\hyper@link
6157   \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6158   \let\hyper@anchor\ltx@gobble
6159   \let\hyper@anchorstart\ltx@gobble
6160   \def\hyper@anchorend{\Hy@xspace@end}%
6161   \let\hyper@linkstart\ltx@gobbletwo
6162   \def\hyper@linkend{\Hy@xspace@end}%
6163   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6164   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6165   \let\Hy@backout\@gobble
6166 }
6167 \def\stop@hyper{%
6168   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6169   \let\Hy@backout\@gobble
6170   \let\hyper@@anchor\ltx@gobble
6171   \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6172   \let\hyper@anchor\ltx@gobble
6173   \let\hyper@anchorstart\ltx@gobble
6174   \def\hyper@anchorend{\Hy@xspace@end}%
6175   \let\hyper@linkstart\ltx@gobbletwo
6176   \def\hyper@linkend{\Hy@xspace@end}%
6177   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6178   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6179 }
6180 \def\endNoHyper{%
6181   \global\let\hyper@link\hyper@livelink
6182 }
6183 \end{package}

```

## 23 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```

6184 \nohyperref
6185 \RequirePackage{letltxmacro}[2008/06/13]
6186 \let\hyper@@anchor\@gobble
6187 \def\hyper@link##1##2##3{##3}%
6188 \let\hyper@anchorstart\@gobble
6189 \let\hyper@anchorend\@empty
6190 \let\hyper@linkstart\@gobbletwo
6191 \let\hyper@linkend\@empty
6192 \def\hyper@linkurl##1##2{##1}%

```

```

6193 \def\hyper@linkfile#1#2#3{#1}%
6194 \def\hyper@link@{#1}#2#3{#1}%
6195 \let\PDF@SetupDoc\@empty
6196 \let\PDF@FinishDoc\@empty
6197 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6198 \def\Acrobatmenu#1#2{\leavevmode#2}
6199 \let\pdfstringdefDisableCommands\@gobbletwo
6200 \let\texorpdfstring\@firstoftwo
6201 \let\pdfbookmark\@undefined
6202 \newcommand\pdfbookmark[3]{}
6203 \let\phantomsection\@empty
6204 \let\hypersetup\@gobble
6205 \let\hyperbaseurl\@gobble
6206 \newcommand*\href[3]{}
6207 \let\hyperdef\@gobbletwo
6208 \let\hyperlink\@gobble
6209 \let\hypertarget\@gobble
6210 \def\hyperref{%
6211   \ifnextchar\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6212 }
6213 \long\def\@gobbleopt[#1]{}
6214 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

6215 \LetLtxMacro\NoHy@OrgRef\ref
6216 \DeclareRobustCommand*\ref{%
6217   \ifstar\NoHy@OrgRef\NoHy@OrgRef
6218 }
6219 \LetLtxMacro\NoHy@OrgPageRef\pageref
6220 \DeclareRobustCommand*\pageref{%
6221   \ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6222 }
6223 \nohyperref

```

## 24 The Mangling Of Aux and Toc Files

Some extra tests so that the hyperref package may be removed or added to a document without having to remove .aux and .toc files (this section is by David Carlisle) All the code is delayed to `\begin{document}`

```

6224 \*package
6225 \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.

```

6226 \if@filesw
6227   \ifHy@typexml
6228     \immediate\closeout\@mainaux
6229     \immediate\openout\@mainaux\jobname.aux\relax
6230     \immediate\write\@auxout{<relaxxml>\relax}%
6231   \fi
6232   \immediate\write\@auxout{%
6233     \string\providecommand\string\HyperFirstAtBeginDocument{%
6234       \string\AtBeginDocument}^^J%
6235     \string\HyperFirstAtBeginDocument{%

```



```

6236 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6237 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6238 \string\gdef\string\contentsline%
6239 \string#1\string#2\string#3\string#4{%
6240 \string\oldcontentsline%
6241 {\string#1}{\string#2}{\string#3}}^^J%
6242 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6243 \string\gdef\string\newlabel\string#1\string#2{%
6244 \string\newlabelxx{\string#1}\string#2}^^J%
6245 \string\gdef\string\newlabelxx%
6246 \string#1\string#2\string#3\string#4\string#5\string#6{%
6247 \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.

```

6248 \string\AtEndDocument{%
6249 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6250 \string\let\string\contentsline\string\oldcontentsline^^J%
6251 \string\let\string\newlabel\string\oldnewlabel^^J%
6252 \string\fi%
6253 }^^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.

```

6254 \string\fi%
6255 }^^J%
6256 \string\global\string\let\string\hyper@last\relax^^J%
6257 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6258 }%
6259 \fi
6260 \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.

```

6261 \ifx\hyper@last\@undefined
6262 \def\@starttoc#1{%
6263 \begingroup
6264 \makeatletter
6265 \IfFileExists{\jobname.#1}{%
6266 \Hy@WarningNoLine{%
6267 old #1 file detected, not used; run LaTeX again%
6268 }%
6269 }{}%
6270 \if@filesw
6271 \expandafter\newwrite\csname tf@#1\endcsname
6272 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6273 \fi
6274 \@nobreakfalse
6275 \endgroup
6276 }%
6277 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
6278 \fi
6279 }

```

## 25 Title strings

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

```

6280 \ifHy@pdfusetitle
6281   \let\HyOrg@title\title
6282   \let\HyOrg@author\author
6283   \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6284   \def\Hy@scanopttitle[#1]{%
6285     \gdef\Hy@title{#1}%
6286     \HyOrg@title{#1}%
6287   }%
6288   \def\Hy@scantitle#1{%
6289     \gdef\Hy@title{#1}%
6290     \HyOrg@title{#1}%
6291   }%
6292   \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6293   \def\Hy@scanoptauthor[#1]{%
6294     \gdef\Hy@author{#1}%
6295     \HyOrg@author{#1}%
6296   }%
6297   \def\Hy@scanauthor#1{%
6298     \gdef\Hy@author{#1}%
6299     \HyOrg@author{#1}%
6300   }%

```

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.

```

6301 \begingroup
6302   \def\process@me#1\@nil#2{%
6303     \expandafter\let\expandafter\x\csname @#2\endcsname
6304     \edef\y{\expandafter\strip@prefix\meaning\x}%
6305     \def\c##1##2\@nil{%
6306       \ifx\\##1\\%
6307         \else
6308           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6309             \expandafter{\x}%
6310         \fi
6311       }%
6312       \expandafter\c\y\relax#1\@nil
6313     }%
6314     \expandafter\process@me\string\@latex@\@nil{title}%
6315     \expandafter\process@me\string\@latex@\@nil{author}%
6316   \endgroup
6317 \fi
6318 \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.

```

6319 \def\Hy@UseMaketitleString#1{%
6320 \ltx@ifundefined{Hy@#1}{}%
6321 \begingroup
6322 \let\Hy@saved@hook\pdfstringdefPreHook
6323 \pdfstringdefDisableCommands{%
6324 \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6325 \let\newline\\%
6326 }%
6327 \expandafter\ifx\csname @pdf#1\endcsname\@empty
6328 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6329 \csname Hy@#1\endcsname\@empty
6330 }%
6331 \fi
6332 \global\let\pdfstringdefPreHook\Hy@saved@hook
6333 \endgroup
6334 }%
6335 }
6336 \def\Hy@newline@title#1{ #1}
6337 \def\Hy@newline@author#1{, #1}
6338 \def\Hy@UseMaketitleInfos{%
6339 \Hy@UseMaketitleString{title}%
6340 \Hy@UseMaketitleString{author}%
6341 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```

6342 \RequirePackage{atbegshi}[2007/09/09]
6343 \let\Hy@EveryPageHook\ltx@empty
6344 \let\Hy@EveryPageBoxHook\ltx@empty
6345 \let\Hy@FirstPageHook\ltx@empty
6346 \AtBeginShipout{%
6347 \Hy@EveryPageHook
6348 \ifx\Hy@EveryPageBoxHook\ltx@empty
6349 \else
6350 \setbox\AtBeginShipoutBox=\vbox{%
6351 \offinterlineskip
6352 \Hy@EveryPageBoxHook
6353 \box\AtBeginShipoutBox
6354 }%
6355 \fi
6356 }
6357 \ltx@iffileloaded{pdfmark.def}{%
6358 \AtBeginShipoutFirst{%
6359 \Hy@FirstPageHook
6360 }%
6361 }{%
6362 \AtBeginShipout{%
6363 \Hy@FirstPageHook
6364 \global\let\Hy@FirstPageHook\ltx@empty
6365 }%
6366 }
6367 \g@addto@macro\Hy@FirstPageHook{%

```

```

6368 \PDF@FinishDoc
6369 \global\let\PDF@FinishDoc\ltx@empty
6370 }

```

## 27.1 PDF /PageLabels

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

```

6371 \ifHy@pdfpagelabels
6372 \begingroup\expandafter\expandafter\expandafter\endgroup
6373 \expandafter\ifx\csname thepage\endcsname\relax
6374 \Hy@pdfpagelabelsfalse
6375 \Hy@WarningNoLine{%
6376   Option 'pdfpagelabels' is turned off\MessageBreak
6377   because \string\thepage\space is undefined%
6378 }%
6379 \csname fi\endcsname
6380 \csname iffalse\expandafter\endcsname
6381 \fi

```

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

```

6382 \def\thispdfpagelabel#1{%
6383   \gdef\HyPL@thisLabel{#1}%
6384 }%
6385 \global\let\HyPL@thisLabel\relax

```

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

```

6386 \let\HyPL@Labels\ltx@empty

```

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

```

6387 \newcount\Hy@abspage
6388 \Hy@abspage=0 %

```

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

```

6389 \def\HyPL@LastType{init}%
6390 \def\HyPL@LastNumber{0}%
6391 \let\HyPL@LastPrefix\ltx@empty

```

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

```

6392 \def\HyPL@arabic{D}%
6393 \def\HyPL@Roman{R}%
6394 \def\HyPL@roman{r}%
6395 \def\HyPL@Alph{A}%
6396 \def\HyPL@alph{a}%
6397 \let\HyPL@SlidesSetPage\ltx@empty
6398 \ltx@ifclassloaded{slides}{%
6399   \def\HyPL@SlidesSetPage{%
6400     \advance\c@page\ltx@one
6401     \ifnum\value{page}>\ltx@one
6402       \protected@edef\HyPL@SlidesOptionalPage{%
6403         \Hy@SlidesFormatOptionalPage{\thepage}%
6404       }%
6405     \else
6406       \let\HyPL@SlidesOptionalPage\ltx@empty
6407     \fi
6408     \advance\c@page-\ltx@one

```

```

6409 \def\HyPL@page{%
6410 \csname the\Hy@SlidesPage\endcsname
6411 \HyPL@SlidesOptionalPage
6412 }%
6413 }%
6414 }{}%

```

`\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.

```

6415 \def\HyPL@EveryPage{%
6416 \begingroup
6417 \ifx\HyPL@thisLabel\relax
6418 \let\HyPL@page\thepage
6419 \HyPL@SlidesSetPage
6420 \else
6421 \let\HyPL@page\HyPL@thisLabel
6422 \global\let\HyPL@thisLabel\relax
6423 \fi
6424 \let\HyPL@Type\relax
6425 \ifnum\c@page>0 %
6426 \ifx\HyPL@SlidesSetPage\ltx@empty
6427 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6428 \fi
6429 \fi
6430 \let\Hy@temp Y%
6431 \ifx\HyPL@Type\HyPL@LastType
6432 \else
6433 \let\Hy@temp N%
6434 \fi
6435 \ifx\HyPL@Type\relax
6436 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6437 \else
6438 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6439 \fi
6440 \ifx\HyPL@Prefix\HyPL@LastPrefix
6441 \else
6442 \let\Hy@temp N%
6443 \fi
6444 \if Y\Hy@temp
6445 \advance\c@page by -1 %
6446 \ifnum\HyPL@LastNumber=\the\c@page\relax
6447 \else
6448 \let\Hy@temp N%
6449 \fi
6450 \Hy@StepCount\c@page
6451 \fi
6452 \if N\Hy@temp
6453 \ifx\HyPL@Type\relax
6454 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6455 \else
6456 \HyPL@StorePageLabel{%
6457 \ifx\HyPL@Prefix\@empty
6458 \else
6459 /P(\HyPL@Prefix)%
6460 \fi
6461 /S/\csname HyPL\HyPL@Type\endcsname
6462 \ifnum\the\c@page=1 %

```

```

6463         \else
6464         \space/St \the\c@page
6465         \fi
6466     }%
6467     \fi
6468     \fi
6469     \xdef\HyPL@LastNumber{\the\c@page}%
6470     \global\let\HyPL@LastType\HyPL@Type
6471     \global\let\HyPL@LastPrefix\HyPL@Prefix
6472 \endgroup
6473 \Hy@GlobalStepCount\Hy@abspage
6474 }%

```

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

```

6475 \def\HyPL@CheckThePage#1\@nil{%
6476   \HyPL@@CheckThePage{#1}#1\c@page\@nil
6477 }%

```

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

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

```

6478 \def\HyPL@@CheckThePage#1#2\c@name#3\endcsname\c@page#4\@nil{%
6479   \def\Hy@tempa{#4}%
6480   \def\Hy@tempb{\c@name\endcsname\c@page}%
6481   \ifx\Hy@tempa\Hy@tempb
6482     \expandafter\ifx\c@name HyPL#3\endcsname\relax
6483   \else
6484     \def\HyPL@Type{#3}%
6485     \def\HyPL@Prefix{#2}%
6486   \fi
6487 \else
6488   \begingroup
6489     \let\Hy@next\endgroup
6490     \let\HyPL@found\@undefined
6491     \def\arabic{\HyPL@Format{arabic}}%
6492     \def\Roman{\HyPL@Format{Roman}}%
6493     \def\roman{\HyPL@Format{roman}}%
6494     \def\Alph{\HyPL@Format{Alph}}%
6495     \def\alph{\HyPL@Format{alph}}%
6496     \protected@edef\Hy@temp{#1}%
6497     \ifx\HyPL@found\relax
6498       \toks@{\expandafter\Hy@temp}%
6499       \edef\Hy@next{\endgroup
6500         \noexpand\HyPL@@@CheckThePage\the\toks@
6501         \noexpand\HyPL@found\relax\noexpand\@nil
6502       }%
6503     \fi
6504     \Hy@next
6505   \fi
6506 }%

```

`\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 `\c@name`.

```

6507 \def\HyPL@Format#1#2{%

```

```

6508 \ifx\HyPL@found\@undefined
6509 \expandafter\ifx\csname c@#2\endcsname\c@page
6510 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6511 \else
6512 \expandafter\noexpand\csname#1\endcsname{#2}%
6513 \fi
6514 \else
6515 \expandafter\noexpand\csname#1\endcsname{#2}%
6516 \fi
6517 }%

```

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

```

6518 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6519 \def\Hy@tempa{#3}%
6520 \def\Hy@tempb{\HyPL@found\relax}%
6521 \ifx\Hy@tempa\Hy@tempb
6522 \def\HyPL@Type{#2}%
6523 \def\HyPL@Prefix{#1}%
6524 \fi
6525 }%

```

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

```

6526 \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`.

```

6527 \def\HyPL@Useless{0<</S/D>>}%
6528 \@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.

```

6529 \def\HyPL@SetPageLabels{%
6530 \@onelevel@sanitize\HyPL@Labels
6531 \ifx\HyPL@Labels\@empty
6532 \else
6533 \ifx\HyPL@Labels\HyPL@Useless
6534 \else
6535 \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6536 \fi
6537 \fi
6538 }%

```

```

6539 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6540 \fi

```

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

```

6541 \Hy@DisableOption{pdfpagelabels}
6542 </package>

```

### 27.1.1 pdfTeX and VTeX

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

\Hy@PutCatalog

```

6543 < *pdfTeX>
6544 \pdf@ifdraftmode{%
6545   \let\Hy@PutCatalog\ltx@gobble
6546 }{%
6547   \let\Hy@PutCatalog\pdfcatalog
6548 }
6549 < /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.

```

6550 < *vTeX>
6551 \providecommand*{\XR@ext}{pdf}
6552 \edef\Hy@VTeXversion{%
6553   \ifx\VTeXversion\@undefined
6554     \z@
6555   \else
6556     \ifx\VTeXversion\relax
6557       \z@
6558     \else
6559       \VTeXversion
6560     \fi
6561   \fi
6562 }
6563 \begingroup
6564   \ifnum\Hy@VTeXversion<660 %
6565     \gdef\Hy@PutCatalog#1{%
6566       \Hy@WarningNoLine{%
6567         VTeX 6.59g or above required for pdfpagelabels%
6568       }%
6569     }%
6570   \else
6571     \gdef\Hy@PutCatalog#1{%
6572       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6573     }%
6574     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6575       \ifx\#2\%
6576         \else
6577           \immediate\special{!pdfpagelabels #2}%
6578         \fi
6579       }%
6580     \fi
6581   \endgroup
6582 < /vTeX>

6583 < *pdfTeX | vTeX>

```

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

```

6584 \ifHy@pdfpagelabels
6585   \def\HyPL@StorePageLabel#1{%
6586     \toks@\expandafter{\HyPL@Labels}%
6587     \xdef\HyPL@Labels{%
6588       \the\toks@
6589       \the\Hy@abspace<<#1>>%

```



```

6590 }%
6591 }%

```

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.

```

6592 \RequirePackage{atveryend}[2009/12/07]%
6593 \AtVeryEndDocument{%
6594   \HyPL@SetPageLabels
6595 }%

6596 \fi
6597 </pdfTeX | vtex>

```

### 27.1.2 xetex

```

6598 <*xetex>
6599 \HyPsd@LoadUnicode
6600 \Hy@unicodetrue
6601 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6602 \else
6603   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6604 \fi
6605 \HyPsd@LoadStringEnc
6606 \define@key{Hyp}{unicode}[true]{%
6607   \Hy@boolkey{unicode}{#1}%
6608   \ifHy@unicode
6609     \else
6610       \Hy@Warning{%
6611         XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6612         option setting 'unicode=false'%
6613       }%
6614       \Hy@unicodetrue
6615     \fi
6616   }
6617 \define@key{Hyp}{pdfencoding}{%
6618   \edef\HyPsd@temp{#1}%
6619   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6620     \let\HyPsd@pdfencoding\HyPsd@temp
6621   \else
6622     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6623       \let\HyPsd@pdfencoding\HyPsd@temp
6624     \else
6625       \Hy@Warning{%
6626         XeTeX driver only supports\MessageBreak
6627         'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6628         setting 'pdfencoding=\HyPsd@temp'%
6629       }%
6630     \fi
6631   \fi
6632 }
6633 \let\HyXeTeX@CheckUnicode\relax
6634 </xetex>

```

### 27.1.3 pdfmarkbase, dvipdfm, xetex

```

6635 <*pdfmarkbase>
6636 \begingroup
6637 \@ifundefined{headerps@out}{-}{%

```

```

6638 \toks@\expandafter{\Hy@FirstPageHook}%
6639 \xdef\Hy@FirstPageHook{%
6640 \noexpand\headerps@out{%
6641 systemdict /pdfmark known%
6642 {%
6643 userdict /?pdfmark systemdict /exec get put%
6644 }{%
6645 userdict /?pdfmark systemdict /pop get put %
6646 userdict /pdfmark systemdict /cleartomark get put%
6647 }%
6648 ifelse%
6649 }%
6650 \the\toks@
6651 }%
6652 }%
6653 \endgroup
6654 \pdfmarkbase)

```

\Hy@PutCatalog

```

6655 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
6656 <*pdfmarkbase>
6657 \def\Hy@PutCatalog#1{%
6658 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
6659 }
6660 \pdfmarkbase)

6661 <*pdfmarkbase | dvipdfm | xetex>
6662 \ifHy@pdfpagelabels

```

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

```

6663 \def\HyPL@StorePageLabel#1{%
6664 \if@filesw
6665 \begingroup
6666 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6667 \immediate\write\@mainaux{%
6668 \string\HyPL@Entry{\Hy@tempa}%
6669 }%
6670 \endgroup
6671 \fi
6672 }%

```

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.

```

6673 \Hy@AtBeginDocument{%
6674 \if@filesw
6675 \immediate\write\@mainaux{%
6676 \string\providecommand\string*\string\HyPL@Entry[1]{}%
6677 }%
6678 \fi
6679 \ifx\HyPL@Labels\@empty
6680 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6681 \else
6682 \HyPL@SetPageLabels
6683 \fi
6684 \let\HyPL@Entry\@gobble
6685 }%

```

`\HyPL@Entry`

```

6686 \def\HyPL@Entry#1{%
6687   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6688     \HyPL@Labels
6689     #1%
6690   }%
6691 }%

6692 \fi
6693 </pdfmarkbase | dvipdfm | xetex>
6694 <*package>

6695 \ifx\MaybeStopEarly\relax
6696 \else
6697   \Hy@stoppedearlytrue
6698   \expandafter\MaybeStopEarly
6699 \fi
6700 \Hy@stoppedearlyfalse

```

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

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

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

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

Start with a fallback for equations

```

6701 \def\Hy@CounterExists#1{%
6702   \begingroup\expandafter\expandafter\expandafter\endgroup
6703   \expandafter\ifx\csname c@#1\endcsname\relax
6704     \expandafter\@gobble
6705   \else
6706     \begingroup\expandafter\expandafter\expandafter\endgroup
6707     \expandafter\ifx\csname the#1\endcsname\relax
6708       \expandafter\expandafter\expandafter\@gobble
6709     \else
6710       \expandafter\expandafter\expandafter\@firstofone
6711     \fi
6712   \fi
6713 }
6714 \Hy@CounterExists{section}{%
6715   \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6716 }

```

```

6717 \Hy@CounterExists{part}{%
6718 \providecommand\theHpart{\arabic{part}}}%
6719 }
6720 \ltx@ifundefined{thechapter}{%
6721 \providecommand\theHsection {\arabic{section}}}%
6722 \providecommand\theHfigure {\arabic{figure}}}%
6723 \providecommand\theHtable {\arabic{table}}}%
6724 }{%
6725 \providecommand\theHchapter {\arabic{chapter}}}%
6726 \providecommand\theHfigure {\theHchapter.\arabic{figure}}}%
6727 \providecommand\theHtable {\theHchapter.\arabic{table}}}%
6728 \providecommand\theHsection {\theHchapter.\arabic{section}}}%
6729 }
6730 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6731 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6732 \providecommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
6733 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6734 \providecommand\theHtheorem {\theHsection.\arabic{theorem}}
6735 \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.

```

6736 \let\H@item\item
6737 \newcounter{Item}
6738 \def\theHItem{\arabic{Item}}
6739 \def\item{%
6740 \@hyper@itemfalse
6741 \if@nmbrlist\@hyper@itemtrue\fi
6742 \H@item
6743 }
6744 \providecommand\theHenumi {\theHItem}
6745 \providecommand\theHenumii {\theHItem}
6746 \providecommand\theHenumiii {\theHItem}
6747 \providecommand\theHenumiv {\theHItem}
6748 \providecommand\theHHfootnote {\arabic{Hfootnote}}
6749 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6750 \@ifundefined{theHHmpfootnote}{%
6751 \let\theHHmpfootnote\theHHfootnote
6752 }{}

```

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.

```

6753 \let\H@refstepcounter\refstepcounter
6754 \edef\name@of@eq{equation}%
6755 \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.

```

6756 \newif\if@hyper@item
6757 \newif\if@skiphyperref
6758 \@hyper@itemfalse
6759 \@skiphyperreffalse
6760 \def\refstepcounter#1{%
6761 \ifHy@pdfstring
6762 \else

```

```

6763 \H@refstepcounter{#1}%
6764 \edef\This@name{#1}%
6765 \ifx\This@name\name@of@slide
6766 \else
6767 \if@skiphyperref
6768 \else
6769 \if@hyper@item
6770 \stepcounter{Item}%
6771 \hyper@refstepcounter{Item}%
6772 \@hyper@itemfalse
6773 \else
6774 \hyper@refstepcounter{#1}%
6775 \fi
6776 \fi
6777 \fi
6778 \fi
6779 }
6780 \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.

```

6781 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

6782 \def\hyper@refstepcounter#1{%
6783 \edef\This@name{#1}%
6784 \ifx\This@name\name@of@eq
6785 \@ifundefined{theHequation}{%
6786 \make@stripped@name{\theequation}%
6787 \let\theHequation\newname
6788 }{}%
6789 \fi
6790 \@ifundefined{theH#1}{%
6791 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6792 }{}%
6793 \hyper@makecurrent{#1}%
6794 \ifmeasuring@
6795 \else
6796 \Hy@raisedlink{%
6797 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6798 }%
6799 \fi
6800 }

```

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`.

```

6801 \begingroup\expandafter\expandafter\expandafter\endgroup
6802 \expandafter\ifx\csname chapter\endcsname\relax
6803 \def\Hy@chapterstring{section}%
6804 \else
6805 \def\Hy@chapterstring{chapter}%
6806 \fi

```

```

6807 \def\Hy@appendixstring{appendix}
6808 \def\Hy@chapapp{\Hy@chapterstring}
6809 \ltx@ifundefined{appendix}{%
6810 }{%
6811   \let\HyOrg@appendix\appendix
6812   \def\Hy@AlphNoErr#1{%
6813     \ifnum\value{#1}>26 %
6814       Alph\number\value{#1}%
6815     \else
6816       \ifnum\value{#1}<1 %
6817         Alph\number\value{#1}%
6818       \else
6819         \Alph{#1}%
6820       \fi
6821     \fi
6822   }%
6823   \def\appendix{%
6824     \ltx@ifundefined{chapter}{%
6825       \gdef\theHsection{\Hy@AlphNoErr{section}}%
6826     }{%
6827       \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
6828     }%
6829     \xdef\Hy@chapapp{\Hy@appendixstring}%
6830     \HyOrg@appendix
6831   }%
6832 }

```

\Hy@Test@alph

```

6833 \def\Hy@Test@alph#1{%
6834   \ifcase#1\or
6835     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6836     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6837     u\or v\or w\or x\or y\or z%
6838   \else
6839     \@ctrerr
6840   \fi
6841 }

```

\Hy@Test@Alph

```

6842 \def\Hy@Test@Alph#1{%
6843   \ifcase#1\or
6844     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6845     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6846     U\or V\or W\or X\or Y\or Z%
6847   \else
6848     \@ctrerr
6849   \fi
6850 }

```

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

```

6851 \def\hyper@makecurrent#1{%
6852   \begingroup
6853   \edef\Hy@param{#1}%
6854   \ifx\Hy@param\Hy@chapterstring
6855     \let\Hy@param\Hy@chapapp
6856   \fi

```

```

6857 \ifHy@hypertextnames
6858 \let\@number\@firstofone
6859 \def\@fnsymbol##1{fnsymbol\number##1}%
6860 \def\@arabic##1{\number##1}%
6861 \ifx\@alph\Hy@Test@alph
6862 \else
6863 \def\@alph{alph\number}%
6864 \fi
6865 \ifx\@Alph\Hy@Test@Alph
6866 \else
6867 \def\@Alph{Alph\number}%
6868 \fi
6869 \ifHy@naturalnames
6870 \let\textlatin\@firstofone
6871 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6872 \else
6873 \xdef\HyperGlobalCurrentHref{%
6874 \csname
6875 the%
6876 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6877 #1%
6878 \endcsname
6879 }%
6880 \fi
6881 \xdef\HyperGlobalCurrentHref{%
6882 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6883 }%
6884 \else
6885 \Hy@GlobalStepCount\Hy@linkcounter
6886 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
6887 \fi
6888 \endgroup
6889 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6890 \ifHy@localanchorname
6891 \let\@currentHref\HyperLocalCurrentHref
6892 \else
6893 \global\let\@currentHref\HyperGlobalCurrentHref
6894 \fi
6895 }

```

\Hy@MakeCurrentHref

```

6896 \def\Hy@MakeCurrentHref#1{%
6897 \edef\HyperLocalCurrentHref{#1}%
6898 \@onelevel@sanitize\HyperLocalCurrentHref
6899 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6900 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6901 \ifHy@localanchorname
6902 \let\@currentHref\HyperLocalCurrentHref
6903 \else
6904 \global\let\@currentHref\HyperGlobalCurrentHref
6905 \fi
6906 }

```

\Hy@MakeCurrentHrefAuto

```

6907 \def\Hy@MakeCurrentHrefAuto#1{%
6908 \Hy@GlobalStepCount\Hy@linkcounter
6909 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6910 }

```

```

\@currentHlabel \@currentHlabel is only defined for compatibility with package ‘hypdvips’.
6911 \def\@currentHlabel{\@currentHref}

6912 \@ifpackageloaded{fancyvrb}{%
6913   \@ifpackagelater{fancyvrb}{1998/05/20}{-}{-}%
6914   \def\FV@StepLineNo{%
6915     \FV@SetLineNo
6916     \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}}%
6917   \FV@StepLineNo
6918 }%
6919 }%
6920 }{}

```

## 29 Package lastpage support

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

```

\lastpage@putlabel

6921 \Hy@AtBeginDocument{%
6922   \@ifclassloaded{revtex4}{-}%
6923   \@namedef{ver@lastpage.sty}{1994/06/25}%
6924 }{}%
6925 \@ifpackageloaded{lastpage}{%
6926   \ifHy@pageanchor
6927   \else
6928     \Hy@WarningNoLine{%
6929       The \string\pageref{LastPage} link doesn't work\MessageBreak
6930       with disabled option ‘pageanchor’%
6931     }%
6932   \fi
6933   \def\lastpage@putlabel{%
6934     \addtocounter{page}{-1}%
6935     \if@filesw
6936       \begingroup
6937       \let\@number\@firstofone
6938       \ifHy@pageanchor
6939         \ifHy@hypertexnames
6940           \ifHy@plainpages
6941             \def\Hy@temp{\arabic{page}}%
6942           \else
6943             \Hy@unicodedefalse
6944             \pdfstringdef\Hy@temp{\thepage}%
6945           \fi
6946         \else
6947           \def\Hy@temp{\the\Hy@pagecounter}%
6948         \fi
6949       \fi
6950       \immediate\write\@auxout{%
6951         \string\newlabel
6952         {LastPage}{-}{\thepage}{-}%

```



```

6953         \ifHy@pageanchor page.\Hy@temp\fi}{}}%
6954     }%
6955     \endgroup
6956     \fi
6957     \addtocounter{page}{1}%
6958 }%
6959 \@ifclassloaded{revtex4}{%
6960     \begingroup
6961     \toks@{\expandafter{\lastpage@putlabel}}%
6962     \edef\x{\endgroup
6963         \def\noexpand\lastpage@putlabel{%
6964             \noexpand\stepcounter{page}%
6965             \the\toks@
6966             \noexpand\addtocounter{page}\noexpand\m@ne
6967         }%
6968     }%
6969     \x
6970 }{}%
6971 }{}%
6972 }
6973 \</package>
6974 \<*check>
6975 \checkpackage{lastpage}[1994/06/25]
6976 \checkcommand\def\lastpage@putlabel{%
6977     \addtocounter{page}{-1}%
6978     \immediate\write\@auxout{%
6979         \string\newlabel{LastPage}{{}\{\thepage}}}%
6980 }%
6981 \addtocounter{page}{1}%
6982 }
6983 \</check>
6984 \<*package>

```

## 30 Package ifthen support

Since version 6.75a this is done in package nameref.

For compatibility `\hypergetref` and `\hypergetpageref` are still provided. But they do not generate warnings, if the reference is undefined.

```

6985 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
6986 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

## 31 Package titlesec and titletoc support

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

Package titlesec support:

```

6987 \@ifpackageloaded{titlesec}{%
6988     \def\ttl@Hy@steplink#1{%
6989         \Hy@MakeCurrentHrefAuto{#1*}%
6990         \edef\ttl@Hy@saveanchor{%
6991             \noexpand\Hy@raisedlink{%
6992                 \noexpand\hyper@anchorstart{\@currentHref}%
6993                 \noexpand\hyper@anchorend
6994                 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6995                 \noexpand\ttl@Hy@PatchSaveWrite
6996             }%

```

```

6997 }%
6998 }%
6999 \def\ttl@Hy@PatchSaveWrite{%
7000 \begingroup
7001 \toks@{\expandafter\ttl@savewrite}%
7002 \edef\x{\endgroup
7003 \def\noexpand\ttl@savewrite{%
7004 \let\noexpand\@currentHref
7005 \noexpand\ttl@Hy@SavedCurrentHref
7006 \the\toks@
7007 }%
7008 }%
7009 \x
7010 }%
7011 \def\ttl@Hy@refstepcounter#1{%
7012 \let\ttl@b\Hy@raisedlink
7013 \def\Hy@raisedlink##1{%
7014 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7015 }%
7016 \refstepcounter{#1}%
7017 \let\Hy@raisedlink\ttl@b
7018 }%
7019 }{}

Package titletoc support:
7020 \@ifpackageloaded{titletoc}{%
7021 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
7022 }{}

```

## 32 Package varioref support

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

```

7023 \def\Hy@varioref@undefined{??}{??}{-}{-}{-}
7024 \@ifpackageloaded{varioref}{%
7025 \def\vref@pagenum#1#2{%
7026 \@ifundefined{r@#2}{%
7027 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7028 }{}%
7029 \edef#1{\getpagerefnumber{#2}}%
7030 }%
7031 }{}

```

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

```

7032 \def\Hy@varioref@refstepcounter#1{%
7033 \stepcounter{#1}%
7034 \protected@edef\@currentlabel{%
7035 \csname p@#1\expandafter\endcsname\csname the#1\endcsname
7036 }%
7037 }
7038 \AtBeginDocument{%
7039 \ifx\refstepcounter\Hy@varioref@refstepcounter
7040 \let\H@refstepcounter\refstepcounter
7041 \let\refstepcounter\Hy@saved@refstepcounter
7042 \fi
7043 }

```

### 33 Package longtable support

Sometimes the anchor of the longtable goes to the previous page. Thus the following patch separates the anchor setting and counter incrementation by hyperref's `\refstepcounter` and the anchor setting is moved after `\vskip\LTpre`.

Patch of `\LT@array`: replace `\refstepcounter` by the original `\H@refstepcounter` without anchor generation

```

7044 \@ifpackageloaded{longtable}{%
7045   \begingroup
7046   \def\y{\LT@array}%
7047   \@ifundefined{scr@LT@array}{%
7048     \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}{%
7049     }\def\y{\scr@LT@array}}%
7050   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7051     \expandafter\endgroup
7052     \expandafter\def\y[##1]##2{%
7053       \H@refstepcounter{#1}%
7054       \hyper@makecurrent{table}%
7055       \let\Hy@LT@currentHref\@currentHref
7056       #2\@sharp###4%
7057     }%
7058   }%
7059   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

7060   \begingroup
7061   \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7062     \endgroup
7063     \def\LT@start{%
7064       #1%
7065       \ifvoid\LT@foot#2\fi
7066       \let\@currentHref\Hy@LT@currentHref
7067       \Hy@raisedlink{%
7068         \hyper@anchorstart{\@currentHref}\hyper@anchorend
7069       }%
7070       #3%
7071     }%
7072   }%
7073   \expandafter\x\LT@start\@nil
7074 }{}

```

### 34 Equations

We want to make the whole equation a target anchor. Overload equation, temporarily reverting to original `\refstepcounter`. If, however, it is in AMS math, we do not do anything, as the tag mechanism is used there (see section 41). The exception is that we move the equation incrementation inside the math environment to avoid specials outside and a wrong vertical spacing of equation environments.

```

7075 \let\new@refstepcounter\refstepcounter
7076 \let\H@equation\equation
7077 \let\H@endequation\endequation
7078 \@ifpackageloaded{amsmath}{%
7079   \long\def\Hy@temp{%
7080     \incr@eqnum
7081     \mathdisplay@push

```

```

7082 \st@rredfalse \global\@eqnswtrue
7083 \mathdisplay{equation}%
7084 }%
7085 \ifx\Hy@temp\equation
7086 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7087 \csname iftrue\endcsname
7088 \else
7089 \long\def\equation{%
7090 \mathdisplay@push
7091 \st@rredfalse \global\@eqnswtrue
7092 \mathdisplay{equation}%
7093 \incr@eqnum
7094 }%
7095 \fi
7096 \fi
7097 }{%
7098 \def\equation{%
7099 \let\refstepcounter\H@refstepcounter
7100 \H@equation
7101 \@ifundefined{theHequation}{%
7102 \make@stripped@name{\theequation}%
7103 \let\theHequation\newname
7104 }{}%
7105 \hyper@makecurrent{equation}%

```

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

```

7106 \mathopen{%
7107 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7108 }%
7109 \let\refstepcounter\new@refstepcounter
7110 }%
7111 \def\endequation{%
7112 \ifx\Hy@raisedlink\ltx@empty
7113 \hyper@anchorend
7114 \else
7115 \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7116 \fi
7117 \H@endequation
7118 }%
7119 }

```

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.

```

7120 \newif\if@eqnstar
7121 \@eqnstarfalse
7122 \let\H@eqnarray\eqnarray
7123 \let\H@endeqnarray\endeqnarray
7124 \def\eqnarray{%
7125 \let\Hy@reserved@a\relax
7126 \def\@currentHref{}%
7127 \H@eqnarray
7128 \if@eqnstar
7129 \else
7130 \ifx\\\@currentHref\\%
7131 \else

```

```

7132 \ifundefined{theHequation}{%
7133 \make@stripped@name{\theequation}%
7134 \let\theHequation\newname
7135 }{}%
7136 \hyper@makecurrent{equation}%
7137 \mathopen{%
7138 \Hy@raisedlink{%
7139 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7140 }%
7141 }%
7142 \fi
7143 \fi
7144 }
7145 \def\endeqnarray{%
7146 \H@endeqnarray
7147 }

```

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.

```

7148 \namedef{eqnarray*}{%
7149 \def\@eqnocr{\nonumber\@seqnocr}\@eqnstartrue\eqnarray
7150 }
7151 \namedef{endeqnarray*}{%
7152 \nonumber\endeqnarray\@eqnstarfalse
7153 }

```

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

```

7154 \ltx@ifundefined{subeqnarray}{}{%
7155 \let\H@subeqnarray\subeqnarray
7156 \let\H@endsubeqnarray\endsubeqnarray
7157 \def\subeqnarray{%
7158 \let\Hy@reserved@a\relax
7159 \H@subeqnarray
7160 \ifundefined{theHequation}{%
7161 \make@stripped@name{\theequation}%
7162 \let\theHequation\newname
7163 }{}%
7164 \hyper@makecurrent{equation}%
7165 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
7166 }%
7167 \def\endsubeqnarray{%
7168 \H@endsubeqnarray
7169 }%
7170 \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7171 }

```

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

```

7172 \def\make@stripped@name#1{%
7173 \begingroup
7174 \escapechar\m@ne
7175 \global\let\newname\@empty
7176 \protected@edef\Hy@tempa{#1}%
7177 \edef\@tempb{%
7178 \noexpand\@tfor\noexpand\Hy@tempa:=%
7179 \expandafter\strip@prefix\meaning\Hy@tempa

```

```

7180 }%
7181 \@tempb\do{%
7182   \if{\Hy@tempa\else
7183     \if{\Hy@tempa\else
7184       \xdef\newname{\newname\Hy@tempa}%
7185     \fi
7186   \fi
7187 }%
7188 \endgroup
7189 }

```

Support for amsmath's subequations:

```

7190 \begingroup\expandafter\expandafter\expandafter\endgroup
7191 \expandafter\ifx\csname subequations\endcsname\relax
7192 \else
7193   \let\HyOrg@subequations\subequations
7194   \def\subequations{%
7195     \stepcounter{equation}%
7196     \protected@edef\theHparentequation{%
7197       \ifundefined{theHequation}\theequation\theHequation
7198     }%
7199     \addtocounter{equation}{-1}%
7200     \HyOrg@subequations
7201     \def\theHequation{\theHparentequation\alph{equation}}%
7202     \ignorespaces
7203   }%
7204 \fi

```

Support for package `amsthm` (Daniel Müllner):

```

7205 \@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

7206 \def\Hy@temp#1#2#3{%
7207   \ifhmode\unskip\unskip\par\fi
7208   \normalfont
7209   \trivlist
7210   \let\thmheadnl\relax
7211   \let\thm@swap\@gobble
7212   \let\thm@indent\indent % indent
7213   \thm@headfont{\scshape}% heading font small caps
7214   \thm@notefont{\fontseries\mddefault\upshape}%
7215   \thm@headpunct{.}% add period after heading
7216   \thm@headsep 5\p@ plus\p@ minus\p@\relax
7217   \thm@space@setup
7218   #1% style overrides
7219   \@topsep \thm@preskip % used by thm head
7220   \@topsepadd \thm@postskip % used by \@endparenv
7221   \def\@tempa{#2}\ifx\@empty\@tempa
7222     \def\@tempa{\@oparg{\@begintheorem{#3}{}}{}}%
7223   \else
7224     \refstepcounter{#2}%
7225     \def\@tempa{%
7226       \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}%
7227   }%
7228 \fi

```

```

7229 \@tempa
7230 }%
7231 \ifx\Hy@temp\@thm
7232 \def\@thm#1#2#3{%
7233 \ifhmode
7234 \unskip\unskip\par
7235 \fi
7236 \normalfont
7237 \trivlist
7238 \let\thmheadnl\relax
7239 \let\thm@swap\@gobble
7240 \let\thm@indent\indent % indent
7241 \thm@headfont{\scshape}% heading font small caps
7242 \thm@notefont{\fontseries\mddefault\upshape}%
7243 \thm@headpunct{.}% add period after heading
7244 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7245 \thm@space@setup
7246 #1% style overrides
7247 \@topsep \thm@preskip % used by thm head
7248 \@topsepadd \thm@postskip % used by \@endparenv
7249 \def\dth@counter{#2}%
7250 \ifx\@empty\dth@counter
7251 \def\@tempa{%
7252 \@oparg{\@begintheorem{#3}-{}}[]%
7253 }%
7254 \else
7255 \H@refstepcounter{#2}%
7256 \hyper@makecurrent{#2}%
7257 \let\Hy@dth@currentHref\@currentHref
7258 \def\@tempa{%
7259 \@oparg{\@begintheorem{#3}-{\csname the#2\endcsname}}[]%
7260 }%
7261 \fi
7262 \@tempa
7263 }%
7264 \else
7265 \def\@thm#1#2#3{%
7266 \ifhmode
7267 \unskip\unskip\par
7268 \fi
7269 \normalfont
7270 \trivlist
7271 \let\thmheadnl\relax
7272 \let\thm@swap\@gobble
7273 \thm@notefont{\fontseries\mddefault\upshape}%
7274 \thm@headpunct{.}% add period after heading
7275 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7276 \thm@space@setup
7277 #1% style overrides
7278 \@topsep \thm@preskip % used by thm head
7279 \@topsepadd \thm@postskip % used by \@endparenv
7280 \def\dth@counter{#2}%
7281 \ifx\@empty\dth@counter
7282 \def\@tempa{%
7283 \@oparg{\@begintheorem{#3}-{}}[]%
7284 }%
7285 \else

```

```

7286 \H@refstepcounter{#2}%
7287 \hyper@makecurrent{#2}%
7288 \let\Hy@dth@currentHref\@currentHref
7289 \def\@tempa{%
7290 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7291 }%
7292 \fi
7293 \@tempa
7294 }%
7295 \fi
7296 \dth@everypar={%
7297 \@minipagefalse
7298 \global\@newlistfalse
7299 \@noparitemfalse
7300 \if@inlabel
7301 \global\@inlabelfalse
7302 \begingroup
7303 \setbox\z@\lastbox
7304 \ifvoid\z@
7305 \kern-\itemindent
7306 \fi
7307 \endgroup
7308 \ifx\@empty\dth@counter
7309 \else
7310 \Hy@raisedlink{%
7311 \hyper@anchorstart{%
7312 \ltx@ifundefined{Hy@dth@currentHref}%
7313 \@currentHref\Hy@dth@currentHref
7314 }\hyper@anchorend
7315 }%
7316 \fi
7317 \unhbox\@labels
7318 \fi
7319 \if@nobreak
7320 \@nobreakfalse \clubpenalty\@M
7321 \else
7322 \clubpenalty\@clubpenalty \everypar{}%
7323 \fi
7324 }%
7325 }{}

```

## 35 Footnotes

The footnote mark is a hypertext link, and the text is a target. We separately number the footnotes sequentially through the text, separately from whatever labels the text assigns. Too hard to keep track of markers otherwise. If the raw forms `\footnotemark` and `\footnotetext` are used, force them to use un-hyper original.

```

7326 \ifHy@hyperfootnotes
7327 \newcounter{Hfootnote}%
7328 \let\H@@footnotetext\@footnotetext
7329 \let\H@@footnotemark\@footnotemark
7330 \def\@xfootnotenext[#1]{%
7331 \begingroup
7332 \csname c@\@mpfn\endcsname #1\relax
7333 \unrestored@protected@xdef\@thefnmark{\thempfn}%

```



```

7334 \endgroup
7335 \ifx\@footnotetext\@mpfootnotetext
7336 \expandafter\H@@mpfootnotetext
7337 \else
7338 \expandafter\H@@footnotetext
7339 \fi
7340 }%
7341 \def\@xfootnotemark[#1]{%
7342 \begingroup
7343 \c@footnote #1\relax
7344 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7345 \endgroup
7346 \H@@footnotemark
7347 }%
7348 \let\H@@mpfootnotetext\@mpfootnotetext
7349 \long\def\@mpfootnotetext#1{%
7350 \H@@mpfootnotetext{%
7351 \ifHy@nesting
7352 \expandafter\ltx@firstoftwo
7353 \else
7354 \expandafter\ltx@secondoftwo
7355 \fi
7356 {%
7357 \expandafter\hyper@@anchor\expandafter{%
7358 \Hy@footnote@currentHref
7359 }{#1}%
7360 }{%
7361 \Hy@raisedlink{%
7362 \expandafter\hyper@@anchor\expandafter{%
7363 \Hy@footnote@currentHref
7364 }{\relax}%
7365 }#1%
7366 }%
7367 }%
7368 }%
7369 \long\def\@footnotetext#1{%
7370 \H@@footnotetext{%
7371 \ifHy@nesting
7372 \expandafter\ltx@firstoftwo
7373 \else
7374 \expandafter\ltx@secondoftwo
7375 \fi
7376 {%
7377 \expandafter\hyper@@anchor\expandafter{%
7378 \Hy@footnote@currentHref
7379 }{#1}%
7380 }{%
7381 \Hy@raisedlink{%
7382 \expandafter\hyper@@anchor\expandafter{%
7383 \Hy@footnote@currentHref
7384 }{\relax}%
7385 }%
7386 \let\@currentHref\Hy@footnote@currentHref
7387 \let\@currentlabelname\@empty
7388 #1%
7389 }%
7390 }%

```

```
7391 }%
```

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.

```
7392 \def\@footnotemark{%
7393   \leavevmode
7394   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
7395   \stepcounter{Hfootnote}%
7396   \global\let\Hy@saved@currentHref\@currentHref
7397   \hyper@makecurrent{Hfootnote}%
7398   \global\let\Hy@footnote@currentHref\@currentHref
7399   \global\let\@currentHref\Hy@saved@currentHref
7400   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7401   \@makefnmark
7402   \hyper@linkend
7403   \ifhmode\spacefactor\x@sf\fi
7404   \relax
7405 }%
```

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

```
7406 \@ifpackageloaded{tabularx}{%
7407   \let\HyOrg@TX@endtabularx\TX@endtabularx
7408   \def\Hy@tabularx@hook{%
7409     \let\@footnotetext\H@@footnotetext
7410     \let\@footnotemark\H@@footnotemark
7411     \let\@mpfootnotetext\H@@mpfootnotetext
7412   }%
7413   \begingroup
7414     \toks@\expandafter{\TX@endtabularx}%
7415     \xdef\Hy@gtemp{%
7416       \noexpand\Hy@tabularx@hook
7417       \the\toks@
7418     }%
7419   \endgroup
7420   \let\TX@endtabularx\Hy@gtemp
7421 }{ }%
```

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

```
7422 \@ifpackageloaded{longtable}{%
7423   \CheckCommand*{\LT@p@ftntext}[1]{%
7424     \edef\@tempa{%
7425       \the\LT@p@ftn
7426       \noexpand\footnotetext[\the\c@footnote]%
7427     }%
7428     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7429   }%
7430   \long\def\LT@p@ftntext#1{%
7431     \edef\@tempa{%
7432       \the\LT@p@ftn
7433     }%
7434     \begingroup
7435       \noexpand\c@footnote=\the\c@footnote\relax
```

```

7435     \noexpand\protected@xdef\noexpand\@thefnmark{%
7436     \noexpand\thempfn
7437     }%
7438     \noexpand\Hy@LT@footnotetext{%
7439     \Hy@footnote@currentHref
7440     }%
7441     }%
7442     \global\LT@p@ftn\expandafter{%
7443     \@tempa{#1}%
7444     \endgroup
7445     }%
7446     }%
7447     \long\def\Hy@LT@footnotetext#1#2{%
7448     \H@@@footnotetext{%
7449     \ifHy@nesting
7450     \hyper@@anchor{#1}{#2}%
7451     \else
7452     \Hy@raisedlink{%
7453     \hyper@@anchor{#1}{\relax}%
7454     }%
7455     \def\@currentHref{#1}%
7456     \let\@currentlabelname\@empty
7457     #2%
7458     \fi
7459     }%
7460     }%
7461     }{}%

```

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

```

7462     \ifpackageloaded{fancyvrb}{%
7463     \def\V@@@footnotetext{%
7464     \insert\footins\bgroup
7465     \csname reset@font\endcsname
7466     \footnotesize
7467     \interlinepenalty\interfootnotelinepenalty
7468     \splittopskip\footnotesep
7469     \splitmaxdepth\dp\strutbox
7470     \floatingpenalty \@MM
7471     \hsize\columnwidth
7472     \@parboxrestore
7473     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7474     \@makefntext{}%
7475     \rule{\z@}{\footnotesep}%
7476     \bgroup
7477     \aftergroup\V@@@footnotetext
7478     \Hy@raisedlink{%
7479     \expandafter\hyper@@anchor\expandafter{%
7480     \Hy@footnote@currentHref
7481     }{\relax}%
7482     }%
7483     \let\@currentHref\Hy@footnote@currentHref
7484     \let\@currentlabelname\@empty
7485     \ignorespaces
7486     }%
7487     }{}%

```

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

```

7488 \def\Hy@temp#1{%
7489   \begingroup
7490   \unrestored@protected@xdef\@thefnmark{\ref{#1}}}%
7491   \endgroup
7492   \@footnotemark
7493 }%
7494 \ifx\Hy@temp\footref
7495   \def\footref#1{%
7496     \begingroup
7497     \unrestored@protected@xdef\@thefnmark{\ref{#1}}}%
7498     \endgroup
7499     \H@@@footnotemark
7500   }%
7501 \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.

```

7502 \let\HyOrg@maketitle\maketitle
7503 \def\maketitle{%
7504   \let\Hy@saved@footnotemark\@footnotemark
7505   \let\Hy@saved@footnotetext\@footnotetext
7506   \let\@footnotemark\H@@@footnotemark
7507   \let\@footnotetext\H@@@footnotetext
7508   \@ifnextchar[\Hy@maketitle@optarg{% ]
7509     \HyOrg@maketitle
7510     \Hy@maketitle@end
7511   }%
7512 }%
7513 \def\Hy@maketitle@optarg[#1]{%
7514   \HyOrg@maketitle[{#1}]%
7515   \Hy@maketitle@end
7516 }%
7517 \def\Hy@maketitle@end{%
7518   \ifx\@footnotemark\H@@@footnotemark
7519     \let\@footnotemark\Hy@saved@footnotemark
7520   \fi
7521   \ifx\@footnotetext\H@@@footnotetext
7522     \let\@footnotetext\Hy@saved@footnotetext
7523   \fi
7524 }%

```

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

```

7525 \def\realfootnote{%
7526   \@ifnextchar[\@xfootnote{%
7527     \stepcounter{\@mpfn}%
7528     \protected@xdef\@thefnmark{\thempfn}%
7529     \H@@@footnotemark\H@@@footnotetext
7530   }%
7531 }%
7532 \fi
7533 \Hy@DisableOption{hyperfootnotes}
7534 \</package>
7535 \< *check>
7536 \checklatex
7537 \checkcommand\def\@xfootnotenext[#1]{%

```

```

7538 \begingroup
7539 \csname c@\@mpfn\endcsname #1\relax
7540 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7541 \endgroup
7542 \@footnotetext
7543 }
7544 \checkcommand\def\@xfootnotemark[#1]{%
7545 \begingroup
7546 \c@footnote #1\relax
7547 \unrestored@protected@xdef\@thefnmark{\thefnmark}%
7548 \endgroup
7549 \@footnotemark
7550 }
7551 \checkcommand\def\@footnotemark{%
7552 \leavevmode
7553 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7554 \@makefnmark
7555 \ifhmode\spacefactor\@x@sf\fi
7556 \relax
7557 }
7558 </check>
7559 <*package>

```

## 36 Float captions

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

```

7560 \def\caption{%
7561 \ifx\@captive\@undefined
7562 \latex@error{\noexpand\caption outside float}\@ehd
7563 \expandafter\@gobble
7564 \else
7565 \H@refstepcounter\@captive
7566 \let\Hy@tempa\@caption
7567 \@ifundefined{float@caption}{%
7568 }{%
7569 \expandafter\ifx\csname @float@c@\@captive\endcsname
7570 \float@caption
7571 \let\Hy@tempa\Hy@float@caption
7572 \fi
7573 }%
7574 \expandafter\@firstofone
7575 \fi
7576 {\@dblarg{\Hy@tempa\@captive}}%
7577 }
7578 \long\def\@caption#1[#2]#3{%
7579 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7580 \csname iftrue\endcsname
7581 \global\let\@currentHref\hc@currentHref
7582 \else
7583 \hyper@makecurrent{\@captive}%
7584 \fi
7585 \ifundefined{NR@getttitle}{%
7586 \def\@currentlabelname{#2}%
7587 }{%
7588 \NR@getttitle{#2}%

```

```

7589 }%
7590 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7591   \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7592 }%
7593 \begingroup
7594   \@parboxrestore
7595   \if@minipage
7596     \@setminipage
7597   \fi
7598   \normalsize
7599   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7600     \csname iftrue\endcsname
7601     \global\@capstartfalse
7602     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7603   \else
7604     \@makecaption{\csname fnum@#1\endcsname}{%
7605       \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7606   \ifHy@nesting
7607     \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7608   \else
7609     \Hy@raisedlink{%
7610       \expandafter\hyper@@anchor\expandafter{%
7611         \@currentHref
7612       }\relax}%
7613   }%
7614   #3%
7615   \fi
7616 }%
7617 \fi
7618 \par
7619 \endgroup
7620 }

```

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’.

```

7621 \let\Hy@float@caption\@caption
7622 \newcommand{\HyNew@float@makebox}[1]{%
7623   \HyOrg@float@makebox{%
7624     #1\relax
7625     \ifx\Hy@float@currentHref\@undefined
7626     \else
7627       \expandafter\hyper@@anchor\expandafter{%
7628         \Hy@float@currentHref
7629       }\relax}%
7630     \global\let\Hy@float@currentHref\@undefined
7631   \fi
7632 }%
7633 }%
7634 \@ifpackageloaded{float}{%
7635   \def\Hy@float@caption{%
7636     \ifx\Hy@float@currentHref\@undefined
7637       \hyper@makecurrent{\@cuptype}%
7638     \global\let\Hy@float@currentHref\@currentHref

```

```

7639 \else
7640 \let\@currentHref\Hy@float@currentHref
7641 \fi
7642 \float@caption
7643 }%
7644 \let\HyOrg@float@makebox\float@makebox
7645 \let\float@makebox\HyNew@float@makebox
7646 }{}

7647 \endpackage
7648 \check
7649 \checklatex[1999/06/01 - 2000/06/01]
7650 \checkcommand\def\caption{%
7651 \ifx\@capttype\@undefined
7652 \@latex@error{\noexpand\caption outside float}\@ehd
7653 \expandafter\@gobble
7654 \else
7655 \refstepcounter\@capttype
7656 \expandafter\@firstofone
7657 \fi
7658 {\@dblarg{\@caption\@capttype}}%
7659 }
7660 \checkcommand\long\def\@caption#1[#2]#3{%
7661 \par
7662 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7663 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7664 }%
7665 \begingroup
7666 \@parboxrestore
7667 \if@minipage
7668 \@setminipage
7669 \fi
7670 \normalsize
7671 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7672 \endgroup
7673 }
7674 \endcheck
7675 \endpackage

```

## 37 Bibliographic references

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

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

```

7676 \def\hyper@natlinkstart#1{%
7677 \Hy@backout{#1}%
7678 \hyper@linkstart{cite}{cite.#1}%
7679 \def\hyper@nat@current{#1}%
7680 }
7681 \def\hyper@natlinkend{%
7682 \hyper@linkend

```

```

7683 }
7684 \def\hyper@natlinkbreak#1#2{%
7685   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7686 }
7687 \def\hyper@natanchorstart#1{%
7688   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7689 }
7690 \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.

```

7691 \ltx@ifundefined{NAT@parse}{%
7692   \providecommand*\@extra@binfo{}%
7693   \providecommand*\@extra@b@citeb{}%
7694   \def\bibcite#1#2{%
7695     \@newl@bel{b}{#1\@extra@binfo}{%
7696       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7697     }%
7698   }%
7699   \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.”.

```

7700 \let\Hy@bibcite\bibcite
7701 \begingroup
7702   \@ifundefined{bbl@cite@choice}{}{%
7703     \g@addto@macro\bbl@cite@choice{%
7704       \let\bibcite\Hy@bibcite
7705     }%
7706   }%
7707 \endgroup

```

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

```

7708 \providecommand*\@BIBLABEL{\@biblabel}%
7709 \def\@bibitem[#1]#2{%
7710   \@skiphyperreftrue
7711   \H@item[%
7712     \ifx\Hy@raisedlink\@empty
7713       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7714       \@BIBLABEL{#1}%
7715       \hyper@anchorend
7716     \else
7717       \Hy@raisedlink{%
7718         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7719       }%
7720     \@BIBLABEL{#1}%
7721     \fi
7722     \hfill
7723   ]%
7724   \@skiphyperreffalse
7725   \if@filesw
7726     \begingroup
7727       \let\protect\noexpand
7728       \immediate\write\@auxout{%
7729         \string\bibcite{#2}{#1}%
7730       }%

```



```

7731 \endgroup
7732 \fi
7733 \ignorespaces
7734 }%

```

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

```

7735 \def\@bibitem#1{%
7736 \@skiphyperreftrue\H@item\@skiphyperreffalse
7737 \Hy@raisedlink{%
7738 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7739 }%
7740 \if@filesw
7741 \begingroup
7742 \let\protect\noexpand
7743 \immediate\write\@auxout{%
7744 \string\bibcite{#1}{\the\value{\@listctr}}}%
7745 }%
7746 \endgroup
7747 \fi
7748 \ignorespaces
7749 }%
7750 }{}

7751 \</package>
7752 \< *check>
7753 \checklatex
7754 \checkcommand\def\@lbibitem[#1]#2{%
7755 \item[\@biblabel{#1}\hfill]%
7756 \if@filesw
7757 {%
7758 \let\protect\noexpand
7759 \immediate\write\@auxout{%
7760 \string\bibcite{#2}{#1}%
7761 }%
7762 }%
7763 \fi
7764 \ignorespaces
7765 }
7766 \checkcommand\def\@bibitem#1{%
7767 \item
7768 \if@filesw
7769 \immediate\write\@auxout{%
7770 \string\bibcite{#1}{\the\value{\@listctr}}}%
7771 }%
7772 \fi
7773 \ignorespaces
7774 }
7775 \</check>
7776 \< *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.

```

7777 \ifclassloaded{revtex}{%
7778 \Hy@Info{*** compatibility with revtex **** }%
7779 \def\revtex@checking#1#2{%
7780 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname

```

```

7781 \expandafter\def\csname b@#1\endcsname{#2}%
7782 \@SetMaxRnhefLabel{#1}%
7783 \expandafter\let\csname b@#1\endcsname\T@temp
7784 }%

```

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

```

7785 \ifundefined{@CITE}{\def\CITE{\@cite}}}%
7786 \providecommand*\@extra@b@citeb{}%
7787 \def\CITEX[#1]#2{%
7788 \let\@citea\@empty
7789 \leavevmode
7790 \unskip
7791 $~{%
7792 \scriptstyle
7793 \@CITE{%
7794 \@for\@citeb:=#2\do{%
7795 \@citea
7796 \def\@citea{,\penalty\@m\ }%
7797 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7798 \if@filesw
7799 \immediate\write\@auxout{\string\citation{\@citeb}}%
7800 \fi
7801 \ifundefined{b@\@citeb\extra@b@citeb}{%
7802 \mbox{\reset@font\bfseries ?}%
7803 \G@refundefinedtrue
7804 \@latex@warning{%
7805 Citation '\@citeb' on page \thepage \space undefined%
7806 }%
7807 }%
7808 {\csname b@\@citeb\@extra@b@citeb\endcsname}%
7809 }%
7810 }%
7811 }{#1}%
7812 }$%
7813 }%

```

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.

```

7814 \def\citex[#1]#2{%
7815 \let\@citea\@empty
7816 \@cite{%
7817 \@for\@citeb:=#2\do{%
7818 \@citea
7819 \def\@citea{,\penalty\@m\ }%
7820 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7821 \if@filesw
7822 \immediate\write\@auxout{\string\citation{\@citeb}}%
7823 \fi
7824 \ifundefined{b@\@citeb\@extra@b@citeb}{%
7825 \mbox{\reset@font\bfseries ?}%
7826 \G@refundefinedtrue
7827 \@latex@warning{%
7828 Citation '\@citeb' on page \thepage \space undefined%
7829 }%
7830 }%
7831 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7832 }%

```

```

7833 }%
7834 }{#1}%
7835 }%
7836 }{}

```

## 37.1 Package harvard

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

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

```

7837 \ifpackageloaded{harvard}{%
7838   \Hy@AtBeginDocument{%
7839     \Hy@Info{*** compatibility with harvard *** }%
7840     \Hy@raiselinksfalse
7841     \def\harvardcite#1#2#3#4{%
7842       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{}{cite.#1}{#2}}%
7843       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{}{cite.#1}{#3}}%
7844       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{}{cite.#1}{#4}}%
7845       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7846     }%
7847     \def\HAR@citetoaux#1{%
7848       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7849       \ifHy@backref
7850         \ifx\@empty\@currentlabel
7851           \else
7852             \@bsphack
7853             \if@filesw
7854               \protected@write\@auxout{}{%
7855                 \string\writefile{brf}{%
7856                   \string\backcite{#1}{%
7857                     {thepage}{\@currentlabel}{\@currentHref}%
7858                   }%
7859                 }%
7860               }%
7861             \fi
7862             \@esphack
7863           \fi
7864         \fi
7865       }%
7866       \def\harvarditem{%
7867         \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7868       }%
7869       \def\@harvarditem[#1]#2#3#4#5\par{%
7870         \item[]%
7871         \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7872         \if@filesw
7873           \begingroup
7874             \def\protect##1{\string ##1\space}%
7875             \ifthenelse{\equal{#1}{\null}}{%
7876               {\def\next{{#4}{#2}{#3}}}%
7877             {\def\next{{#4}{#2}{#1}{#3}}}%
7878             \immediate\write\@auxout{\string\harvardcite\codeof\next}%

```

```

7879 \endgroup
7880 \fi
7881 \protect\hspace*{-\labelwidth}%
7882 \protect\hspace*{-\labelsep}%
7883 \ignorespaces
7884 #5%
7885 \ifHy@backref
7886 \newblock
7887 \backref{\csname br@#4\endcsname}%
7888 \fi
7889 \par
7890 }%

```

\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:

```

7891 \long\def\HAR@checkcitations#1#2#3#4{%
7892 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
7893 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7894 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
7895 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7896 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
7897 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7898 \else
7899 \@tempswatrue
7900 \fi
7901 \else
7902 \@tempswatrue
7903 \fi
7904 \else
7905 \@tempswatrue
7906 \fi
7907 }%
7908 }%

7909 {}

```

## 37.2 Package chicago

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

```

7910 \@ifpackageloaded{chicago}{%

```

\citeN

```

7911 \def\citeN{%
7912 \def\@citeseppen{-1000}%
7913 \def\@cite##1##2{##1}%
7914 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7915 \@citedata@opt
7916 }%

```

\shortciteN

```

7917 \def\shortciteN{%
7918 \def\@citeseppen{-1000}%
7919 \def\@cite##1##2{##1}%
7920 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7921 \@citedata@opt
7922 }%

```

\@citedata@opt

```
7923 \def\@citedata@opt{%
7924   \let\@cite@opt\@empty
7925   \@ifnextchar [{%
7926     \@tempswatrue
7927     \@citedatax@opt
7928   }{%
7929     \@tempswafalse
7930     \@citedatax[]%
7931   }%
7932 }%
```

\@citedatax@opt

```
7933 \def\@citedatax@opt[#1]{%
7934   \def\@cite@opt{, #1}%
7935   \@citedatax[{#1}]%
7936 }%

7937 }{}
```

## 38 Page numbers

The last page should not contain a /Dur key, because there is no page after the last page. Therefore at the last page there should be a command `\hypersetup{pdfpageduration={}}`. This can be set with `\AtEndDocument`, but it can be too late, if the last page is already finished, or too early, if lots of float pages will follow. Therefore currently nothing is done by hyperref.

This where we supply a destination for each page.

```
7938 \ltx@ifclassloaded{slides}{%
7939   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7940   \def\Hy@PageAnchorSlidesPlain{%
7941     \advance\c@page\ltx@one
7942     \edef\Hy@TempPageAnchor{%
7943       \noexpand\hyper@{anchor{%
7944         page.\the\c@slide.\the\c@overlay.\the\c@note%
7945         \ifnum\c@page=\ltx@one
7946           \else
7947             .\the\c@page
7948         \fi
7949       }}%
7950   }%
7951   \advance\c@page-\ltx@one
7952 }%
7953 \def\Hy@PageAnchorSlide{%
7954   \advance\c@page\ltx@one
7955   \ifnum\c@page>\ltx@one
7956     \ltx@ifundefined{theHpage}{%
7957       \protected@edef\Hy@TheSlideOptionalPage{%
7958         \Hy@SlidesFormatOptionalPage{theHpage}%
7959       }%
7960     }{%
7961       \protected@edef\Hy@TheSlideOptionalPage{%
7962         \Hy@SlidesFormatOptionalPage{theHpage}%
7963       }%
7964     }%
7965   \else
```

```

7966 \def\Hy@TheSlideOptionalPage{}%
7967 \fi
7968 \advance\c@page-\ltx@one
7969 \pdfstringdef\@the@H@page{%
7970 \csname
7971 the%
7972 \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
7973 \Hy@SlidesPage
7974 \endcsname
7975 \Hy@TheSlideOptionalPage
7976 }%
7977 \ltx@gobblethree
7978 }%
7979 \def\Hy@SlidesPage{slide}%
7980 \g@addto@macro\slide{%
7981 \def\Hy@SlidesPage{slide}%
7982 }%
7983 \g@addto@macro\overlay{%
7984 \def\Hy@SlidesPage{overlay}%
7985 }%
7986 \g@addto@macro\note{%
7987 \def\Hy@SlidesPage{note}%
7988 }%
7989 }{%
7990 \def\Hy@PageAnchorSlidesPlain{}%
7991 \def\Hy@PageAnchorSlide{}%
7992 }
7993 \def\Hy@EveryPageAnchor{%
7994 \Hy@DistillerDestFix
7995 \ifHy@pageanchor
7996 \ifHy@hypertexnames
7997 \ifHy@plainpages
7998 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7999 \Hy@PageAnchorSlidesPlain
8000 \else
8001 \begingroup
8002 \let\@number\@firstofone
8003 \Hy@unicodefalse
8004 \Hy@PageAnchorSlide
8005 \pdfstringdef\@the@H@page{\thepage}%
8006 \endgroup
8007 \EdefUnescapeString\@the@H@page{\@the@H@page}%
8008 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
8009 \fi
8010 \else
8011 \Hy@GlobalStepCount\Hy@pagecounter
8012 \def\Hy@TempPageAnchor{%
8013 \hyper@@anchor{page.\the\Hy@pagecounter}%
8014 }%
8015 \fi
8016 \vbox to 0pt{%
8017 \kern\voffset
8018 \kern\topmargin
8019 \kern-1bp\relax
8020 \hbox to 0pt{%
8021 \kern\hoffset
8022 \kern@ifodd\value{page}%

```

```

8023         \oddsidemargin
8024         \else
8025         \evensidemargin
8026     \fi
8027     \kern-1bp\relax
8028     \Hy@TempPageAnchor\relax
8029     \hss
8030 }%
8031 \vss
8032 }%
8033 \fi
8034 }
8035 \g@addto@macro\Hy@EveryPageBoxHook{%
8036 \Hy@EveryPageAnchor
8037 }

```

## 39 Table of contents

TV Raman noticed that people who add arbitrary material into the TOC generate a bad or null link. We avoid that by checking if the current destination is empty. But if ‘the most recent destination’ is not what you expect, you will be in trouble.

```

8038 \def\addcontentsline#1#2#3{% toc extension, type, tag
8039 \begingroup
8040 \let\label\@gobble
8041 \ifx\@currentHref\@empty
8042 \Hy@Warning{%
8043 No destination for bookmark of \string\addcontentsline,%
8044 \MessageBreak destination is added%
8045 }%
8046 \phantomsection
8047 \fi
8048 \expandafter\ifx\csname toplevel@#2\endcsname\relax
8049 \begingroup
8050 \def\Hy@tempa{#1}%
8051 \ifx\Hy@tempa\Hy@bookmarkstype
8052 \Hy@WarningNoLine{%
8053 bookmark level for unknown #2 defaults to 0%
8054 }%
8055 \else
8056 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8057 \fi
8058 \endgroup
8059 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
8060 \fi
8061 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
8062 \Hy@writebookmark{\csname the#2\endcsname}%
8063 {#3}%
8064 {\@currentHref}%
8065 {\Hy@toplevel}%
8066 {#1}%
8067 \ifHy@verbose
8068 \begingroup
8069 \def\Hy@tempa{#3}%
8070 \@onelevel@sanitize\Hy@tempa
8071 \let\temp@online\on@line
8072 \let\on@line\@empty

```

```

8073 \Hy@Info{%
8074   bookmark\temp@online:\MessageBreak
8075   thecounter {\csname the#2\endcsname}\MessageBreak
8076   text {\Hy@tempa}\MessageBreak
8077   reference {\@currentHref}\MessageBreak
8078   toplevel {\Hy@toplevel}\MessageBreak
8079   type {#1}%
8080 }%
8081 \endgroup
8082 \fi
8083 \addtocontents{#1}{%
8084   \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
8085 }%
8086 \endgroup
8087 }
8088 \def\contentsline#1#2#3#4{%
8089   \ifx\#4\%
8090     \csname l@#1\endcsname{#2}{#3}%
8091   \else
8092     \ifcase\Hy@linktoc % none
8093       \csname l@#1\endcsname{#2}{#3}%
8094     \or % section
8095       \csname l@#1\endcsname{%
8096         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
8097       }{#3}%
8098     \or % page
8099       \csname l@#1\endcsname{{#2}}{%
8100         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
8101       }%
8102     \else % all
8103       \csname l@#1\endcsname{%
8104         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
8105       }{%
8106         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
8107       }%
8108     \fi
8109   \fi
8110 }
8111 \</package>
8112 \< *check>
8113 \checklatex
8114 \checkcommand\def\addcontentsline#1#2#3{%
8115   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
8116 }
8117 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8118 \</check>
8119 \< *package>

```

## 40 New counters

The whole theorem business makes up new counters on the fly; we are going to intercept this. Sigh. Do it at the level where new counters are defined.

```

8120 \let\H@definecounter\@definecounter
8121 \def\@definecounter#1{%
8122   \H@definecounter{#1}%
8123   \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%

```



8124 }

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.

```
8125 \let\H@newctr\@newctr
8126 \def\@newctr#1[#2]{%
8127   \H@newctr#1[#2]}%
8128 \expandafter\gdef\csname theH#1\endcsname{%
8129   \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}%
8130 }%
8131 }
```

## 41 AMS $\LaTeX$ compatibility

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

Version 6.77p uses a patch by Ross Moore.

```
8132 \@ifpackageloaded{amsmath}{%
8133   \def\Hy@make@anchor{%
8134     \Hy@MakeCurrentHrefAuto{AMS}%
8135     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8136   }%
8137   \def\Hy@make@df@tag@@#1{%
8138     \gdef\df@tag{%
8139       \maketag@@@{\Hy@make@anchor#1}%
8140       \def\@currentlabel{#1}%
8141     }%
8142   }%
8143   \def\Hy@make@df@tag@@@#1{%
8144     \gdef\df@tag{%
8145       \tagform@{\Hy@make@anchor#1}%
8146       \toks@{\xp{p@equation{#1}}}%
8147       \edef\@currentlabel{\the\toks@}%
8148     }%
8149   }%
8150   \let\HyOrg@make@df@tag@@\make@df@tag@@
8151   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8152   \let\make@df@tag@@\Hy@make@df@tag@@
8153   \let\make@df@tag@@@\Hy@make@df@tag@@@
8154 }
```

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

```
8155 \@ifpackagewith{hyperref}{pdftex}{%
8156   \let\H@seteqlabel\@seteqlabel
8157   \def\@seteqlabel#1{%
8158     \H@seteqlabel{#1}%
8159     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8160     \Hy@raisedlink{%
8161       \hyper@anchorstart{\@currentHref}\hyper@anchorend
8162     }%
8163   }%
8164 }
```

This code I simply cannot remember what I was trying to achieve. The final result seems to do nothing anyway.

```
\let\H@tagform@\tagform@
\def\tagform@#1{%
  \maketag@@@{\hyper@@anchor{\@currentHref}%
    {\ignorespaces#1\unskip}}}%
}
\def\eqref#1{\textup{\H@tagform@\ref{#1}}}
```

#### 41.1 \@addtoreset and \numberwithin patches

\@addtoreset puts a counter to the reset list of another counter. After a reset the counter starts again with perhaps already used values. Therefore the hyperref version of the counter print command \theHcounter is redefined in order to add the parent counter.

```
8165 \let\HyOrg@addtoreset\@addtoreset
8166 \def\@addtoreset#1#2{%
8167   \HyOrg@addtoreset{#1}{#2}%
8168   \expandafter\xdef\csname theH#1\endcsname{%
8169     \expandafter\noexpand
8170     \csname the\@ifundefined{theH#2}{H#2\endcsname
8171     .\noexpand\the\noexpand\value{#1}}%
8172   }%
8173 }
```

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

```
8174 </package>
8175 <*check>
8176 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8177 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8178   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8179     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8180       \@addtoreset{#2}{#3}%
8181       \@xp\xdef\csname the#2\endcsname{%
8182         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8183       }%
8184     }%
8185   }%
8186 }%
8187 </check>
8188 <*package>
8189 \@ifpackageloaded{amsmath}{%
8190   \@ifpackagelater{amsmath}[1999/12/14]{%
8191     \renewcommand*\numberwithin[3][\arabic]{%
8192       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8193         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8194           \HyOrg@addtoreset{#2}{#3}%
8195           \@xp\xdef\csname the#2\endcsname{%
8196             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8197           }%
8198           \@xp\xdef\csname theH#2\endcsname{%
8199             \@xp\@nx
8200             \csname the\@ifundefined{theH#3}{H#3\endcsname
8201             .\@nx#1{#2}}%
8202           }%
8203         }%
8204       }%
8205     }%
8206   }%
8207 }
```

```

8203     }%
8204     }%
8205     }%
8206   }{%
8207     \Hy@WarningNoLine{%
8208       \string\numberwithin\space of package ‘amsmath’ %
8209       only fixed\MessageBreak
8210       for version 2000/06/06 v2.12 or newer%
8211     }%
8212   }%
8213 }{}

```

## 42 Included figures

Simply intercept the low level graphics package macro.

```

8214 \ifHy@hyperfigures
8215   \let\Hy@Gin@setfile\Gin@setfile
8216   \def\Gin@setfile#1#2#3{%
8217     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8218   }%
8219 \fi
8220 \Hy@DisableOption{hyperfigures}

```

## 43 hyperindex entries

Internal command names are prefixed with `\HyInd@`.

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

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

```

8221 \ifHy@hyperindex
8222   \def\HyInd@ParenLeft{({}%
8223   \def\HyInd@ParenRight{)}}%
8224   \def\hyperindexformat#1#2{%
8225     \let\HyOrg@hyperpage\hyperpage
8226     \let\hyperpage\@firstofone
8227     #1{\HyOrg@hyperpage{#2}}%
8228     \let\hyperpage\HyOrg@hyperpage
8229   }%
8230   \Hy@nextfalse
8231   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8232   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8233   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8234   \begingroup
8235     \lccode‘\|=\expandafter‘\HyInd@EncapChar\relax
8236     \lccode‘\/=‘\\\relax
8237   \lowercase{\endgroup
8238   \ifHy@next
8239     \let\HyInd@org@wrindex\@wrindex
8240     \def\@wrindex#1#2{\HyInd@@wrindex{#1}{#2|\\\}}%

```

```

8241 \def\HyInd@@wrindex#1#2|#3|#4\\{%
8242 \ifx\\#3\\%
8243 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8244 \else
8245 \HyInd@@@wrindex{#1}{#2}#3\\%
8246 \fi
8247 }%
8248 \def\HyInd@@@wrindex#1#2#3#4\\{%
8249 \def\Hy@temp@A{#3}%
8250 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8251 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8252 \relax
8253 \HyInd@org@wrindex{#1}{%
8254 #2|hyperindexformat{/#3#4}%
8255 }%
8256 \else
8257 \ifx\\#4\\%
8258 \ifx\Hy@temp@A\HyInd@ParenRight
8259 \HyInd@org@wrindex{#1}{#2|#3}%
8260 \else
8261 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8262 \fi
8263 \else
8264 \HyInd@org@wrindex{#1}{%
8265 #2|#3hyperindexformat{/#4}%
8266 }%
8267 \fi
8268 \fi
8269 }%
8270 \else
8271 \def\@wrindex#1{\@wrindex#1||\\}%
8272 \def\@wrindex#1|#2|#3\\{%
8273 \if@filesw
8274 \ifx\\#2\\%
8275 \protected@write\@indexfile{}{%
8276 \string\indexentry{#1|hyperpage}{\thepage}%
8277 }%
8278 \else
8279 \HyInd@@@wrindex{#1}#2\\%
8280 \fi
8281 \fi
8282 \endgroup
8283 \@esphack
8284 }%
8285 \def\HyInd@@@wrindex#1#2#3\\{%
8286 \def\Hy@temp@A{#2}%
8287 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8288 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8289 \relax
8290 \protected@write\@indexfile{}{%
8291 \string\indexentry{%
8292 #1|hyperindexformat{/#2#3}%
8293 }{\thepage}%
8294 }%
8295 \else
8296 \ifx\\#3\\%
8297 \ifx\Hy@temp@A\HyInd@ParenRight

```

```

8298         \protected@write\@indexfile{}\{%
8299         \string\indexentry{#1|#2}{\thepage}%
8300     }%
8301     \else
8302         \protected@write\@indexfile{}\{%
8303         \string\indexentry{#1|#2hyperpage}{\thepage}%
8304     }%
8305     \fi
8306     \else
8307         \protected@write\@indexfile{}\{%
8308         \string\indexentry{%
8309         #1|#2hyperindexformat{/#3}%
8310         }{\thepage}%
8311     }%
8312     \fi
8313     \fi
8314 }%
8315 \fi
8316 }%
8317 \fi
8318 \Hy@DisableOption{hyperindex}
8319 \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.

```

8320 \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.

```

8321 \def\hyperpage#1{%
8322   \HyInd@hyperpage#1\nohyperpage{}\@nil
8323 }
8324 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8325   \HyInd@@hyperpage{#1}%
8326   #2%
8327   \def\Hy@temp{#3}%
8328   \ifx\Hy@temp\@empty
8329   \else
8330     \ltx@ReturnAfterFi{%
8331       \HyInd@hyperpage#3\@nil
8332     }%
8333   \fi
8334 }
8335 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8336 \def\@hyperpage#1--#2--#3\{%
8337   \ifx\#2\%
8338     \@commahyperpage{#1}%
8339   \else
8340     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8341   \fi
8342 }
8343 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
8344 \def\@commahyperpage#1, #2,#3\{%
8345   \ifx\#2\%
8346     \HyInd@pagelink{#1}%
8347   \else
8348     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%

```

```

8349 \fi
8350 }

```

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

```

8351 \def\HyInd@pagelink#1{%
8352   \begingroup
8353   \toks@={}%
8354   \HyInd@removespaces#1 \@nil
8355 \endgroup
8356 }
8357 \def\HyInd@removespaces#1 #2\@nil{%
8358   \toks@=\expandafter{\the\toks@#1}%
8359   \ifx\#2\%
8360     \edef\x{\the\toks@}%
8361     \ifx\x\@empty
8362       \else
8363         \hyperlink{page.\the\toks@}{\the\toks@}%
8364       \fi
8365     \else
8366       \ltx@ReturnAfterFi{%
8367         \HyInd@removespaces#2\@nil
8368       }%
8369     \fi
8370 }

```

## 44 Compatibility with foiltex

```

8371 \@ifclassloaded{foils}{%
8372   \providecommand*\ext@table{lot}%
8373   \providecommand*\ext@figure{lof}%
8374 }{}

```

## 45 Compatibility with seminar slide package

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

```

8375 \@ifclassloaded{seminar}{%
8376   \Hy@seminarslidestrue
8377   \providecommand\theHslide{\arabic{slide}}%
8378 }{%
8379   \Hy@seminarslidesfalse
8380 }
8381 \@ifpackageloaded{slidesec}{%
8382   \providecommand\theHslidesection {\arabic{slidesection}}%
8383   \providecommand\theHslidesubsection{%
8384     \theHslidesection.\arabic{slidesubsection}}%
8385   }%
8386   \def\slide@heading[#1]#2{%
8387     \H@refstepcounter{slidesection}%
8388     \@addtoreset{slidesubsection}{slidesection}%
8389     \addtocontents{los}{%
8390       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8391       {\@SCTR}{slideheading.\theslidesection}}%
8392     }%
8393   \def\Hy@tempa{#2}%

```

```

8394 \ifx\Hy@tempa\@empty
8395 \else
8396 {%
8397 \edef\@currentlabel{%
8398 \csname p@slidesection\endcsname\theslidesection
8399 }%
8400 \makeslideheading{#2}%
8401 }%
8402 \fi
8403 \gdef\theslideheading{#1}%
8404 \gdef\theslidesubheading{}%
8405 \ifHy@bookmarksnumbered
8406 \def\Hy@slidetitle{\theslidesection\space #1}%
8407 \else
8408 \def\Hy@slidetitle{#1}%
8409 \fi
8410 \ifHy@hypertextnames
8411 \ifHy@naturalnames
8412 \hyper@@anchor{slideheading.\theslidesection}{\relax}%
8413 \Hy@writebookmark
8414 {\theslidesection}%
8415 {\Hy@slidetitle}%
8416 {slideheading.\theslidesection}%
8417 {1}%
8418 {toc}%
8419 \else
8420 \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8421 \Hy@writebookmark
8422 {\theslidesection}%
8423 {\Hy@slidetitle}%
8424 {slideheading.\theHslidesection}%
8425 {1}%
8426 {toc}%
8427 \fi
8428 \else
8429 \Hy@GlobalStepCount\Hy@linkcounter
8430 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8431 \Hy@writebookmark
8432 {\theslidesection}%
8433 {\Hy@slidetitle}%
8434 {slideheading.\the\Hy@linkcounter}%
8435 {1}%
8436 {toc}%
8437 \fi
8438 }%
8439 \def\slide@subheading[#1]#2{%
8440 \H@refstepcounter{slidesubsection}%
8441 \addtocontents{los}{%
8442 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8443 {\@SCTR}{slideheading.\theslidesubsection}%
8444 }%
8445 \def\Hy@tempa{#2}%
8446 \ifx\Hy@tempa\@empty
8447 \else
8448 {%
8449 \edef\@currentlabel{%
8450 \csname p@slidesubsection\endcsname\theslidesubsection

```

```

8451     }%
8452     \makeslidesubheading{#2}%
8453     }%
8454 \fi
8455 \gdef\theslidesubheading{#1}%
8456 \ifHy@bookmarksnumbered
8457     \def\Hy@slidetitle{\theslidesubsection\space #1}%
8458 \else
8459     \def\Hy@slidetitle{#1}%
8460 \fi
8461 \ifHy@hypertextnames
8462     \ifHy@naturalnames
8463         \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8464         \Hy@writebookmark
8465             {\theslidesubsection}%
8466             {\Hy@slidetitle}%
8467             {slideheading.\theslidesubsection}%
8468             {2}%
8469             {toc}%
8470     \else
8471         \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8472         \Hy@writebookmark
8473             {\theslidesubsection}%
8474             {\Hy@slidetitle}%
8475             {slideheading.\theHslidesubsection}%
8476             {2}%
8477             {toc}%
8478     \fi
8479 \else
8480     \Hy@GlobalStepCount\Hy@linkcounter
8481     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8482     \Hy@writebookmark
8483         {\theslidesubsection}%
8484         {\Hy@slidetitle}%
8485         {slideheading.\the\Hy@linkcounter}%
8486         {1}%
8487         {toc}%
8488 \fi
8489 }%
8490 \providecommand*\listslidenamename{List of Slides}%
8491 \def\listofslides{%
8492     \section*{%
8493         \listslidenamename
8494         \@mkboth{%
8495             \expandafter\MakeUppercase\listslidenamename
8496         }{%
8497             \expandafter\MakeUppercase\listslidenamename
8498         }%
8499     }%
8500     \def\l@slide##1##2##3##4{%
8501         \slide@undottedcline{%
8502             \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8503         }%
8504     }%
8505     \let\l@subslide\l@slide
8506     \@startlos
8507 }%

```



```

8508 \def\slide@contents{%
8509   \def\l@slide##1##2##3##4{%
8510     \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8511   }%
8512   \let\l@subslide\@gobblefour
8513   \@startlos
8514 }%
8515 \def\Slide@contents{%
8516   \def\l@slide##1##2##3##4{%
8517     \ifcase\lslide@flag
8518       \message{##1 ** \the\c@slidesection}%
8519       \ifnum##1>\c@slidesection
8520         \def\lslide@flag{1}%
8521         {%
8522           \large
8523           \slide@cline{%
8524             \slidenumberline{$\Rightarrow\bullet$}%
8525             {\hyperlink{##4}{##2}}%
8526           }{##3}%
8527         }%
8528       \else
8529         {%
8530           \large
8531           \slide@cline{%
8532             \slidenumberline{$\surd\;\bullet$}%
8533             {\hyperlink{##4}{##2}}%
8534           }{##3}%
8535         }%
8536       \fi
8537     \or
8538       \def\lslide@flag{2}%
8539       {%
8540         \large
8541         \slide@cline{%
8542           \slidenumberline{$\bullet$}%
8543           {\hyperlink{##4}{##2}}%
8544         }{##3}%
8545       }%
8546     \or
8547       {%
8548         \large
8549         \slide@cline{%
8550           \slidenumberline{$\bullet$}%
8551           {\hyperlink{##4}{##2}}%
8552         }{##3}%
8553       }%
8554     \fi
8555   }%
8556   \def\l@subslide##1##2##3##4{%
8557     \ifnum\lslide@flag=1 %
8558       \undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
8559     \fi
8560   }%
8561   \def\lslide@flag{0}%
8562   \@startlos
8563 }%
8564 }{}

```

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.)

```

8565 \ifHy@texht
8566   \expandafter\endinput
8567 \fi
8568 \let\real@setref\@setref
8569 \def\@setref#1#2#3{% csname, extract group, refname
8570   \ifx#1\relax
8571     \protect\G@refundefinedtrue
8572     \nfss@text{\reset@font\bfseries ??}%
8573     \@latex@warning{%
8574       Reference ‘#3’ on page \thepage \space undefined%
8575     }%
8576   \else
8577     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8578   \fi
8579 }
```

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

```

8580 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8581   \begingroup
8582   \toks0={\hyper@link{#5}{#4}}%
8583   \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8584   \edef\x{\endgroup
8585     \the\toks0 {\the\toks1 }%
8586   }%
8587   \x
8588 }
8589 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8590   \ifx#1\relax
8591     \protect\G@refundefinedtrue
8592     \nfss@text{\reset@font\bfseries ??}%
8593     \@latex@warning{%
8594       Reference ‘#3’ on page \thepage \space undefined%
8595     }%
8596   \else
8597     \protect\hyper@link
8598     {\expandafter\@fifthoffive#1}%
8599     {page.\expandafter\@secondoffive#1}%
8600     {\expandafter\@secondoffive#1}%
8601   \fi
8602 }
8603 \</package>
8604 \< *check>
8605 \checklatex
8606 \checkcommand\def\@setref#1#2#3{%
8607   \ifx#1\relax
8608     \protect\G@refundefinedtrue
8609     \nfss@text{\reset@font\bfseries ??}%
8610     \@latex@warning{%
8611       Reference ‘#3’ on page \thepage\space undefined%
8612     }%
8613   \else
8614     \expandafter#2#1\@null
8615   \fi

```

```

8616 }
8617 </check>
8618 <*package>

```

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

```

8619 \def\HyRef@StarSetRef#1{%
8620   \begingroup
8621   \Hy@safe@activestrue
8622   \edef\x{#1}%
8623   \@onelevel@sanitize\x
8624   \edef\x{\endgroup
8625     \noexpand\HyRef@@StarSetRef
8626     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8627   }%
8628   \x
8629 }
8630 \def\HyRef@@StarSetRef#1#2#3{%
8631   \ifx#1\@undefined
8632     \let#1\relax
8633   \fi
8634   \real@setref#1#3{#2}%
8635 }
8636 \def\@refstar#1{%
8637   \HyRef@StarSetRef{#1}\@firstoffive
8638 }
8639 \def\@pagerefstar#1{%
8640   \HyRef@StarSetRef{#1}\@secondoffive
8641 }
8642 \def\@namerefstar#1{%
8643   \HyRef@StarSetRef{#1}\@thirdoffive
8644 }
8645 \Hy@AtBeginDocument{%
8646   \@ifpackageloaded{varioref}{%
8647     \def\@Refstar#1{%
8648       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8649     }%
8650     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8651       \MakeUppercase#1%
8652     }%
8653     \DeclareRobustCommand*\@Ref*{%
8654       \@ifstar\@Refstar\HyRef@Ref
8655     }%
8656     \def\HyRef@Ref#1{%
8657       \hyperref[{#1}]{\@Ref*{#1}}%
8658     }%
8659     \def\Vr@f#1{%
8660       \leavevmode\unskip\vref@space
8661       \hyperref[{#1}]{%
8662         \@Ref*{#1}%
8663         \let\vref@space\nobreakspace
8664         \@vpageref\unskip}{#1}%
8665       }%
8666     }%
8667     \def\vr@f#1{%
8668       \leavevmode\unskip\vref@space
8669       \begingroup
8670       \let\T@pageref\@pagerefstar

```

```

8671     \hyperref[#1]{%
8672     \ref*{#1}%
8673     \vpageref[unskip]{#1}%
8674     }%
8675   \endgroup
8676 }%
8677 }{}%
8678 }
8679 \DeclareRobustCommand*\autopageref{%
8680   \@ifstar{%
8681     \HyRef@autopagerefname\pageref*%
8682   }\HyRef@autopageref
8683 }
8684 \def\HyRef@autopageref#1{%
8685   \hyperref[#1]{\HyRef@autopagerefname\pageref*{#1}}%
8686 }
8687 \def\HyRef@autopagerefname{%
8688   \ltx@ifundefined{pageautorefname}{%
8689     \ltx@ifundefined{pagename}{%
8690       \Hy@Warning{No autoref name for 'page'}%
8691     }{}%
8692     \pagename\nobreakspace
8693   }%
8694 }{}%
8695   \pageautorefname\nobreakspace
8696 }%
8697 }

```

\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.

```

8698 \DeclareRobustCommand*\autoref{%
8699   \leavevmode
8700   \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
8701 }
8702 \def\HyRef@autoref#1#2{%
8703   \begingroup
8704     \Hy@safe@activetrue
8705     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8706   \endgroup
8707 }
8708 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8709   \HyRef@ShowKeysRef{#2}%
8710   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8711     \edef\HyRef@thisref{%
8712       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8713     }%
8714     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8715     \Hy@safe@activesfalse
8716     #3{%
8717       \expandafter\@fifthoffive#1\@empty\@empty\@empty
8718     }{}%
8719     \expandafter\@fourthoffive#1\@empty\@empty\@empty
8720   }{}%
8721   \HyRef@currentHtag
8722   \expandafter\@firstoffive#1\@empty\@empty\@empty
8723   \null
8724 }%
8725 \else

```

```

8726 \protect\G@refundefinedtrue
8727 \nfss@text{\reset@font\bfseries ??}%
8728 \@latex@warning{%
8729   Reference '#2' on page \thepage\space undefined%
8730 }%
8731 \fi
8732 }
8733 \def\HyRef@testreftype#1.#2\{\%
8734 \ltx@ifundefined{#1autorefname}\{%
8735 \ltx@ifundefined{#1name}\{%
8736 \HyRef@StripStar#1\*\@nil{#1}%
8737 \ltx@ifundefined{\HyRef@name autorefname}\{%
8738 \ltx@ifundefined{\HyRef@name name}\{%
8739 \def\HyRef@currentHtag{}%
8740 \Hy@Warning{No autoref name for '#1'}%
8741 }%
8742 \edef\HyRef@currentHtag{%
8743 \expandafter\noexpand\csname\HyRef@name name\endcsname
8744 \noexpand~%
8745 }%
8746 }%
8747 }{%
8748 \edef\HyRef@currentHtag{%
8749 \expandafter\noexpand
8750 \csname\HyRef@name autorefname\endcsname
8751 \noexpand~%
8752 }%
8753 }%
8754 }{%
8755 \edef\HyRef@currentHtag{%
8756 \expandafter\noexpand\csname#1name\endcsname
8757 \noexpand~%
8758 }%
8759 }%
8760 }{%
8761 \edef\HyRef@currentHtag{%
8762 \expandafter\noexpand\csname#1autorefname\endcsname
8763 \noexpand~%
8764 }%
8765 }%
8766 }
8767 \def\HyRef@StripStar#1*\@nil#3{%
8768 \def\HyRef@name{#2}%
8769 \ifx\HyRef@name\HyRef@CaseStar
8770 \def\HyRef@name{#1}%
8771 \else
8772 \def\HyRef@name{#3}%
8773 \fi
8774 }
8775 \def\HyRef@CaseStar{*\\}
8776 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8777 \let\HyRef@ShowKeysRef\@gobble
8778 \def\HyRef@ShowKeysInit{%
8779 \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

8780 \expandafter\ifx\csname SK@@label\endcsname\relax
8781 \else
8782 \ifx\SK@ref\@empty
8783 \else
8784 \def\HyRef@ShowKeysRef{%
8785 \SK@\SK@@ref
8786 }%
8787 \fi
8788 \fi
8789 }
8790 \@ifpackageloaded{showkeys}{%
8791 \HyRef@ShowKeysInit
8792 }{%
8793 \Hy@AtBeginDocument{%
8794 \@ifpackageloaded{showkeys}{%
8795 \HyRef@ShowKeysInit
8796 }{}%
8797 }%
8798 }

```

Defaults for the names that `\autoref` uses.

```

8799 \providecommand*\AMSautorefname{\equationautorefname}
8800 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8801 \providecommand*\Itemautorefname{\itemautorefname}
8802 \providecommand*\itemautorefname{item}
8803 \providecommand*\equationautorefname{Equation}
8804 \providecommand*\footnoteautorefname{footnote}
8805 \providecommand*\itemautorefname{item}
8806 \providecommand*\figureautorefname{Figure}
8807 \providecommand*\tableautorefname{Table}
8808 \providecommand*\partautorefname{Part}
8809 \providecommand*\appendixautorefname{Appendix}
8810 \providecommand*\chapterautorefname{chapter}
8811 \providecommand*\sectionautorefname{section}
8812 \providecommand*\subsectionautorefname{subsection}
8813 \providecommand*\subsubsectionautorefname{subsubsection}
8814 \providecommand*\paragraphautorefname{paragraph}
8815 \providecommand*\subparagraphautorefname{subparagraph}
8816 \providecommand*\FancyVerbLineautorefname{line}
8817 \providecommand*\theoremautorefname{Theorem}
8818 \providecommand*\pageautorefname{page}
8819 \endpackage

```

## 46 Configuration files

### 46.1 PS/PDF strings

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

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

```

8820 \<*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
8821 \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

8822 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8823 \begingroup
8824 \catcode'\|=0 %
8825 \@makeother\|%
8826 |@firstofone{|endgroup
8827 |def|Hy@pstringdef#1#2{%
8828 |begingroup
8829 |edef~{|string~}%
8830 |xdef|Hy@gtemp{#2}%
8831 |endgroup
8832 |let#1|Hy@gtemp
8833 |@onelevel@sanitize#1%
8834 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8835 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8836 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8837 }%
8838 |def|Hy@ExchangeBackslash#1\#2|@nil{%
8839 #1%
8840 |ifx|\#2|\%%
8841 |else
8842 \\\%
8843 |ltx@ReturnAfterFi{%
8844 |Hy@ExchangeBackslash#2|@nil
8845 }%
8846 |fi
8847 }%
8848 }%
8849 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8850 #1%
8851 \ifx\#2\%%
8852 \else
8853 \@backslashchar(%
8854 \ltx@ReturnAfterFi{%
8855 \Hy@ExchangeLeftParenthesis#2\@nil
8856 }%
8857 \fi
8858 }%
8859 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8860 #1%
8861 \ifx\#2\%%
8862 \else
8863 \@backslashchar)%
8864 \ltx@ReturnAfterFi{%
8865 \Hy@ExchangeRightParenthesis#2\@nil
8866 }%
8867 \fi
8868 }%
8869 \else
8870 \def\Hy@pstringdef#1#2{%
8871 \begingroup
8872 \edef~{\string~}%
8873 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8874 \endgroup
8875 \let#1\Hy@gtemp
8876 }%
8877 \fi
8878 </pdfTeX> dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 46.2 pdftex

```
8879 ⟨*pdftex⟩
8880 \providecommand*{\XR@ext}{pdf}
8881 \Hy@setbreaklinks{true}
8882 \def\HyPat@ObjRef{%
8883   [0-9]*[1-9][0-9]* 0 R%
8884 }
```

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`

```
8885 \let\Hy@pdfminorversion\relax
8886 \begingroup\expandafter\expandafter\expandafter\endgroup
8887 \expandafter\ifx\csname pdfminorversion\endcsname\relax
8888   \begingroup\expandafter\expandafter\expandafter\endgroup
8889   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
8890     \else
8891       \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8892     \fi
8893   \else
8894     \def\Hy@pdfminorversion{\pdfminorversion}%
8895   \fi
8896 \@ifundefined{Hy@pdfminorversion}{%
8897   \PackageInfo{hyperref}{%
8898     PDF version is not set, because pdfTeX is too old (<1.10a)%
8899   }%
8900 }{%
8901   \ifHy@ocgcolorlinks
8902     \ifnum\Hy@pdfminorversion<5 %
8903       \kvsetkeys{Hyp}{pdfversion=1.5}%
8904     \fi
8905   \fi
8906   \ifHy@setpdfversion
8907     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8908     \else
8909       \Hy@pdfminorversion=\Hy@pdfversion\relax
8910     \fi
8911     \PackageInfo{hyperref}{%
8912       \expandafter\string\Hy@pdfminorversion
8913       :=\number\Hy@pdfversion\space
8914     }%
8915   \fi
8916   \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8917 }
8918 \Hy@DisableOption{pdfversion}%
8919 \ifHy@ocgcolorlinks
8920   \pdf@ifdraftmode{}{%
8921     \immediate\pdfobj{%
8922       <<%
8923         /Type/OCG%
8924         /Name(View)%
8925         /Usage<<%
```



```

8926      /Print<<%
8927      /PrintState/OFF%
8928      >>%
8929      /View<<%
8930      /ViewState/ON%
8931      >>%
8932      >>%
8933      >>%
8934      }%
8935      \edef\OBJ@OCG@view{\the\pdffastobj\space 0 R}%
8936      \immediate\pdfobj{%
8937      <<%
8938      /Type/OCG%
8939      /Name(Print)%
8940      /Usage<<%
8941      /Print<<%
8942      /PrintState/ON%
8943      >>%
8944      /View<<%
8945      /ViewState/OFF%
8946      >>%
8947      >>%
8948      >>%
8949      }%
8950      \edef\OBJ@OCG@print{\the\pdffastobj\space 0 R}%
8951      \immediate\pdfobj{%
8952      [%
8953      \OBJ@OCG@view\space\OBJ@OCG@print
8954      ]%
8955      }%
8956      \edef\OBJ@OCGs{\the\pdffastobj\space 0 R}%
8957      \pdfcatalog{%
8958      /OCProperties<<%
8959      /OCGs \OBJ@OCGs
8960      /D<<%
8961      /OFF[\OBJ@OCG@print]%
8962      /AS[%
8963      <<%
8964      /Event/View%
8965      /OCGs \OBJ@OCGs
8966      /Category[/View]%
8967      >>%
8968      <<%
8969      /Event/Print%
8970      /OCGs \OBJ@OCGs
8971      /Category[/Print]%
8972      >>%
8973      <<%
8974      /Event/Export%
8975      /OCGs \OBJ@OCGs
8976      /Category[/Print]%
8977      >>%
8978      ]%
8979      >>%
8980      >>%
8981      }%
8982      \begingroup

```

```

8983 \edef\x{\endgroup
8984 \pdfpageresources{%
8985 /Properties<<%
8986 /OCView \OBJ@OCG@view
8987 /OCPrint \OBJ@OCG@print
8988 >>%
8989 }%
8990 }%
8991 \x
8992 }%
8993 \Hy@AtBeginDocument{%
8994 \def\Hy@colorlink#1{%
8995 \begingroup
8996 \ifHy@ocgcolorlinks
8997 \def\Hy@ocgcolor{#1}%
8998 \setbox0=\hbox\bgroup\color@begingroup
8999 \else
9000 \HyColor@UseColor#1%
9001 \fi
9002 }%
9003 \def\Hy@endcolorlink{%
9004 \ifHy@ocgcolorlinks
9005 \color@endgroup\egroup
9006 \mbox{%
9007 \pdfliteral page{/OC/OCPrint BDC}%
9008 \rlap{\copy0}%
9009 \pdfliteral page{EMC/OC/OCView BDC}%
9010 \begingroup
9011 \expandafter\HyColor@UseColor\Hy@ocgcolor
9012 \box0 %
9013 \endgroup
9014 \pdfliteral page{EMC}%
9015 }%
9016 \fi
9017 \endgroup
9018 }%
9019 }%
9020 \else
9021 \Hy@DisableOption{ocgcolorlinks}%
9022 \fi

```

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

```

9023 \def\setpdfinkmargin#1{\pdfinkmargin#1}
9024 \ifx\pdfstartlink\@undefined% less than version 14
9025 \let\pdfstartlink\pdfannotlink
9026 \let\pdfinkmargin\@tempdima
9027 \let\pdfxform\pdfform
9028 \let\pdflastxform\pdfastform
9029 \let\pdfrefxform\pdfrefform
9030 \else
9031 \pdfinkmargin1pt %
9032 \fi

```

First set up the default linking

```
9033 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

9034 \Hy@WrapperDef\new@pdfink#1{%
9035 \ifhmode

```

```

9036 \savsf\spacefactor
9037 \fi
9038 \Hy@SaveLastskip
9039 \Hy@VerboseAnchor{#1}%
9040 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9041 \Hy@DestName\Hy@pstringDest\@pdfview
9042 \Hy@RestoreLastskip
9043 \ifhmode
9044 \spacefactor\@savsf
9045 \fi
9046 }
9047 \let\pdf@endanchor\@empty

```

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

```

9048 \def\Hy@DestName#1#2{%
9049 \pdfdest name{#1}#2\relax
9050 }

```

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.

```

9051 \providecommand*\@pdfborder{0 0 1}
9052 \providecommand*\@pdfborderstyle{}
9053 \def\Hy@undefinedname{UNDEFINED}
9054 \def\find@pdflink#1#2{%
9055 \leavevmode
9056 \protected@edef\Hy@testname{#2}%
9057 \ifx\Hy@testname\@empty
9058 \Hy@Warning{%
9059 Empty destination name,\MessageBreak
9060 using '\Hy@undefinedname'%
9061 }%
9062 \let\Hy@testname\Hy@undefinedname
9063 \else
9064 \Hy@pstringdef\Hy@testname{%
9065 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
9066 }%
9067 \fi
9068 \Hy@StartlinkName{%
9069 \ifHy@pdfa /F 4\fi
9070 \Hy@setpdfborder
9071 \ifx\@pdfhighlight\@empty
9072 \else
9073 /H\@pdfhighlight
9074 \fi
9075 \ifx\CurrentBorderColor\relax
9076 \else
9077 /C[\CurrentBorderColor]%
9078 \fi
9079 }\Hy@testname
9080 \expandafter\Hy@colorlink\csname @#1color\endcsname
9081 }
9082 \def\Hy@StartlinkName#1#2{%
9083 \pdfstartlink attr{#1}goto name{#2}\relax
9084 }

```

```

9085 \def\close@pdfink{%
9086   \Hy@endcolorlink
9087   \Hy@VerboseLinkStop
9088   \pdfendlink
9089 }
9090 \def\hyper@anchor#1{%
9091   \new@pdfink{#1}\anchor@spot\pdf@endanchor
9092 }
9093 \def\hyper@anchorstart#1{%
9094   \new@pdfink{#1}%
9095   \Hy@activeanchortrue
9096 }
9097 \def\hyper@anchorend{%
9098   \pdf@endanchor
9099   \Hy@activeanchorfalse
9100 }
9101 \def\hyper@linkstart#1#2{%
9102   \Hy@VerboseLinkStart{#1}{#2}%
9103   \ltx@ifundefined{@#1bordercolor}{%
9104     \let\CurrentBorderColor\relax
9105   }{%
9106     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9107   }%
9108   \find@pdfink{#1}{#2}%
9109 }
9110 \def\hyper@linkend{\close@pdfink}
9111 \def\hyper@link#1#2#3{%
9112   \Hy@VerboseLinkStart{#1}{#2}%
9113   \ltx@ifundefined{@#1bordercolor}{%
9114     \let\CurrentBorderColor\relax
9115   }{%
9116     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9117   }%
9118   \find@pdfink{#1}{#2}#3\Hy@xspace@end
9119   \close@pdfink
9120 }
9121 \let\CurrentBorderColor\@linkbordercolor
9122 \def\hyper@linkurl#1#2{%
9123   \begingroup
9124     \Hy@pstringdef\Hy@pstringURI{#2}%
9125     \hyper@chars
9126     \leavevmode
9127     \pdfstartlink
9128     attr{%
9129       \Hy@setpdfborder
9130       \ifx\@pdfhighlight\@empty
9131       \else
9132         /H\@pdfhighlight
9133       \fi
9134       \ifx\@urlbordercolor\relax
9135       \else
9136         /C[\@urlbordercolor]%
9137       \fi
9138     }%
9139     user{%
9140       /Subtype/Link%
9141       \ifHy@pdfa /F 4\fi

```

```

9142      /A<<%
9143      /Type/Action%
9144      /S/URI%
9145      /URI(\Hy@pstringURI)%
9146      \ifHy@href@ismap
9147      /IsMap true%
9148      \fi
9149      \Hy@href@nextactionraw
9150      >>%
9151      }%
9152      \relax
9153      \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9154      \close@pdfink
9155      \endgroup
9156 }
9157 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9158 \begingroup
9159 \def\Hy@pstringF{#2}%
9160 \Hy@CleanupFile\Hy@pstringF
9161 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9162 \Hy@pstringdef\Hy@pstringD{#3}%
9163 \Hy@MakeRemoteAction
9164 \leavevmode
9165 \pdfstartlink
9166 attr{%
9167 \Hy@setpdfborder
9168 \ifx\@pdfhighlight\@empty
9169 \else
9170 /H\@pdfhighlight
9171 \fi
9172 \ifx\@filebordercolor\relax
9173 \else
9174 /C[\@filebordercolor]%
9175 \fi
9176 }%
9177 user {%
9178 /Subtype/Link%
9179 \ifHy@pdfa /F 4\fi
9180 /A<<%
9181 /F(\Hy@pstringF)%
9182 /S/GoToR%
9183 \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}

```

```

9184      \ifx\#3\%
9185      /D[\Hy@href@page\@pdfremotestartview]%
9186      \else

```

```

9187      /D(\Hy@pstringD)%
9188      \fi
9189      \Hy@href@nextactionraw
9190      >>%
9191      }%
9192      \relax
9193      \Hy@colorlink\@filecolor#1\Hy@xspace@end
9194      \close@pdflink
9195      \endgroup
9196      }
9197      \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
9198      \begingroup
9199      \Hy@pstringdef\Hy@pstringF{#1}%
9200      \Hy@pstringdef\Hy@pstringP{#3}%
9201      \leavevmode
9202      \pdfstartlink
9203      attr{%
9204      \Hy@setpdfborder
9205      \ifx\@pdfhighlight\@empty
9206      \else
9207      /H\@pdfhighlight
9208      \fi
9209      \ifx\@runbordercolor\relax
9210      \else
9211      /C\@runbordercolor}%
9212      \fi
9213      }%
9214      user {%
9215      /Subtype/Link%
9216      \ifHy@pdfa /F 4\fi
9217      /A<<%
9218      /F(\Hy@pstringF)%
9219      /S/Launch%
9220      \Hy@SetNewWindow
9221      \ifx\|#3\|%
9222      \else
9223      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9224      \fi
9225      \Hy@href@nextactionraw
9226      >>%
9227      }%
9228      \relax
9229      \Hy@colorlink\@runcolor#2\Hy@xspace@end
9230      \close@pdflink
9231      \endgroup
9232      }

```

\@pdfproducer

```

9233 \ifx\@pdfproducer\relax
9234 \begingroup\expandafter\expandafter\expandafter\endgroup
9235 \expandafter\ifx\csname luatexversion\endcsname\relax
9236 \def\@pdfproducer{pdfTeX}%
9237 \ifx\eTeXversion\@undefined
9238 \else
9239 \ifx\eTeXversion\relax
9240 \else
9241 \ifnum\eTeXversion>0 %

```

```

9242     \def\@pdfproducer{pdfTeX}%
9243     \fi
9244     \fi
9245     \fi
9246     \ifx\pdfTeXversion\@undefined
9247     \else
9248     \ifnum\pdfTeXversion<100 %
9249     \edef\@pdfproducer{%
9250     \@pdfproducer
9251     \the\pdfTeXversion.\pdfTeXrevision
9252     }%
9253     \else
9254     \ifnum\pdfTeXversion<130 %
9255     \edef\@pdfproducer{%
9256     \@pdfproducer-
9257     \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9258     \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
9259     \pdfTeXrevision
9260     }%
9261     \else
9262     \ifnum\pdfTeXversion<140 %
9263     \else
9264     \def\@pdfproducer{pdfTeX}%
9265     \fi
9266     \edef\@pdfproducer{%
9267     \@pdfproducer-
9268     \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9269     \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9270     \pdfTeXrevision
9271     }%
9272     \fi
9273     \fi
9274     \fi
9275     \else
9276     \begingroup
9277     \count@=\luatexversion
9278     \divide\count@ by 100 %
9279     \edef\x{\the\count@}%
9280     \count@=-\x\relax
9281     \multiply\count@ by 100 %
9282     \advance\count@ by \luatexversion
9283     \edef\x{\endgroup
9284     \def\noexpand\@pdfproducer{%
9285     LuaTeX-\x.\the\count@.\luatexrevision
9286     }%
9287     }%
9288     \x
9289     \fi
9290 \fi

```

\PDF@SetupDox

```

9291 \def\PDF@SetupDoc{%
9292 \ifx\@pdfpagescrop\@empty
9293 \else
9294 \edef\process@me{%
9295 \pdfpagesattr={%
9296 /CropBox[\@pdfpagescrop]%
9297 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%

```

```

9298     \else
9299         ^^J\the\pdfpagesattr
9300     \fi
9301 }%
9302 }%
9303 \process@me
9304 \fi
9305 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9306 \pdfcatalog{%
9307     /PageMode/\@pdfpagemode
9308     \ifx\@baseurl\@empty
9309     \else
9310         /URI<</Base(\Hy@pstringB)>>%
9311     \fi
9312 }%
9313 \ifx\@pdfstartpage\@empty
9314 \else
9315     \ifx\@pdfstartview\@empty
9316     \else
9317         openaction goto page\@pdfstartpage{\@pdfstartview}%
9318     \fi
9319 \fi
9320 \edef\Hy@temp{%
9321     \ifHy@pdftoolbar\else /HideToolbar true\fi
9322     \ifHy@pdfmenubar\else /HideMenubar true\fi
9323     \ifHy@pdfwindowui\else /HideWindowUI true\fi
9324     \ifHy@pdfwindow /FitWindow true\fi
9325     \ifHy@pdfcenterwindow /CenterWindow true\fi
9326     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9327     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9328     \Hy@UseNameKey{Direction}\@pdfdirection
9329     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9330     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9331     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9332     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9333     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9334     \Hy@UseNameKey{Duplex}\@pdfduplex
9335     \ifx\@pdfpicktraybypdfsize\@empty
9336     \else
9337         /PickTrayByPDFSize \@pdfpicktraybypdfsize
9338     \fi
9339     \ifx\@pdfprintpagerange\@empty
9340     \else
9341         /PrintPageRange[\@pdfprintpagerange]%
9342     \fi
9343     \ifx\@pdfnumcopies\@empty
9344     \else
9345         /NumCopies \@pdfnumcopies
9346     \fi
9347 }%
9348 \pdfcatalog{%
9349     \ifx\Hy@temp\@empty
9350     \else
9351         /ViewerPreferences<<\Hy@temp>>%
9352     \fi
9353     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9354     \ifx\@pdflang\@empty

```



```

9355 \else
9356 /Lang(\@pdflang)%
9357 \fi
9358 }%
9359 }

```

\PDF@FinishDoc

```

9360 \def\PDF@FinishDoc{%
9361 \pdf@ifdraftmode{}{%
9362 \Hy@UseMaketitleInfos
9363 \HyInfo@GenerateAddons
9364 \pdfinfo{%
9365 /Author(\@pdfauthor)%
9366 /Title(\@pdftitle)%
9367 /Subject(\@pdfsubject)%
9368 /Creator(\@pdfcreator)%
9369 \ifx\@pdfcreationdate\@empty
9370 \else
9371 /CreationDate(\@pdfcreationdate)%
9372 \fi
9373 \ifx\@pdfmoddate\@empty
9374 \else
9375 /ModDate(\@pdfmoddate)%
9376 \fi
9377 \ifx\@pdfproducer\relax
9378 \else
9379 /Producer(\@pdfproducer)%
9380 \fi
9381 /Keywords(\@pdfkeywords)%
9382 \ifx\@pdftrapped\@empty
9383 \else
9384 /Trapped/\@pdftrapped
9385 \fi
9386 \HyInfo@Addons
9387 }%
9388 }%
9389 \Hy@DisableOption{pdfauthor}%
9390 \Hy@DisableOption{pdftitle}%
9391 \Hy@DisableOption{pdfsubject}%
9392 \Hy@DisableOption{pdfcreator}%
9393 \Hy@DisableOption{pdfcreationdate}%
9394 \Hy@DisableOption{pdfmoddate}%
9395 \Hy@DisableOption{pdfproducer}%
9396 \Hy@DisableOption{pdfkeywords}%
9397 \Hy@DisableOption{pdftrapped}%
9398 \Hy@DisableOption{pdfinfo}%
9399 }

```

\hyper@pagetransition \@pdfpagetransition is initialized with \relax. So it indicates, if option pdfpagetransition is used. First previous /Trans entries are removed. If a new /Trans key exists, it is appended to \pdfpageattr.

```

9400 \def\hyper@pagetransition{%
9401 \ifx\@pdfpagetransition\relax
9402 \else
9403 \expandafter\Hy@RemoveTransPageAttr
9404 \the\pdfpageattr^^J/Trans{}}>>\END
9405 \ifx\@pdfpagetransition\@empty

```

```

9406 \else
9407 \edef\@processme{%
9408 \global\pdfpageattr{%
9409 \the\pdfpageattr
9410 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9411 }%
9412 }%
9413 \@processme
9414 \fi
9415 \fi
9416 }

```

`\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.

```

9417 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9418 \ifx\#2\%
9419 \global\pdfpageattr{#1}%
9420 \else
9421 \Hy@RemoveTransPageAttr#1#4\END
9422 \fi
9423 }

```

`\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`.

```

9424 \def\hyper@pageduration{%
9425 \ifx\@pdfpageduration\relax
9426 \else
9427 \expandafter
9428 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9429 \ifx\@pdfpageduration\@empty
9430 \else
9431 \edef\@processme{%
9432 \global\pdfpageattr{%
9433 \the\pdfpageattr
9434 ^^J/Dur \@pdfpageduration\space
9435 }%
9436 }%
9437 \@processme
9438 \fi
9439 \fi
9440 }

```

`\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.

```

9441 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9442 \ifx\#2\%
9443 \global\pdfpageattr{#1}%
9444 \else
9445 \Hy@RemoveDurPageAttr#1#4\END
9446 \fi
9447 }

```

`\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).

```

9448 \def\hyper@pagehidden{%
9449   \ifHy@useHidKey
9450     \expandafter
9451     \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9452   \ifHy@pdfpagehidden
9453     \edef\@processme{%
9454       \global\pdfpageattr{%
9455         \the\pdfpageattr
9456         ^^J/Hid true % SPACE
9457       }%
9458     }%
9459     \@processme
9460   \fi
9461 \fi
9462 }

```

`\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.

```

9463 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9464   \ifx\#2\%
9465     \global\pdfpageattr{#1}%
9466   \else
9467     \Hy@RemoveHidPageAttr#1#4\END
9468   \fi
9469 }

9470 \pdf@ifdraftmode{}{%
9471   \g@addto@macro\Hy@EveryPageHook{%
9472     \hyper@pagetransition
9473     \hyper@pageduration
9474     \hyper@pagehidden
9475   }%
9476 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

9477 \</pdfTeX>
9478 \< *pdfTeX | xetex>
9479 \Hy@AtBeginDocument{%
9480   \ifHy@setpagesize
9481     \expandafter\@firstofone
9482   \else
9483     \expandafter\@gobble
9484   \fi
9485 }%
9486 \@ifclassloaded{seminar}{%
9487 \< *pdfTeX>
9488   \setlength{\pdfhorigin}{1truein}%
9489   \setlength{\pdfvorigin}{1truein}%
9490 \</pdfTeX>
9491   \ifportrait
9492     \ifdim\paperwidth=\z@

```

```

9493     \else
9494       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9495     \fi
9496     \ifdim\paperheight=\z@
9497     \else
9498       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9499     \fi
9500   \else
9501     \ifdim\paperheight=\z@
9502     \else
9503       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9504     \fi
9505     \ifdim\paperwidth=\z@
9506     \else
9507       \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9508     \fi
9509   \fi
9510 }{%
9511   \ltx@ifundefined{stockwidth}{%
9512     \ifdim\paperwidth>\z@
9513       \setlength{\pdfpagewidth}{\paperwidth}%
9514     \fi
9515     \ifdim\paperheight>\z@
9516       \setlength{\pdfpageheight}{\paperheight}%
9517     \fi
9518   }{%
9519     \ifdim\stockwidth>\z@
9520       \setlength{\pdfpagewidth}{\stockwidth}%
9521     \fi
9522     \ifdim\stockheight>\z@
9523       \setlength{\pdfpageheight}{\stockheight}%
9524     \fi
9525   }%
9526 }%
9527 }%
9528 \Hy@DisableOption{setpagesize}%
9529 }
9530 </pdfTeX | xetex>
9531 <*pdfTeX>
9532 \def\Acrobatmenu#1#2{%
9533   \Hy@Acrobatmenu{#1}{#2}{%
9534     \leavevmode
9535     \EdefEscapeName\Hy@temp@menu{#1}%
9536     \pdfstartlink
9537       attr{%
9538         \Hy@setpdfborder
9539         \ifx\@pdfhighlight\@empty
9540           \else
9541             /H\@pdfhighlight
9542           \fi
9543         \ifx\@menubordercolor\relax
9544           \else
9545             /C[\@menubordercolor]%
9546           \fi
9547       }%
9548     user{%
9549       /Subtype/Link%

```

```

9550      \ifHy@pdfa /F 4\fi
9551      /A<<%
9552      /S/Named%
9553      /N/\Hy@temp@menu
9554      \Hy@href@nextactionraw
9555      >>%
9556      }%
9557      \relax
9558      \Hy@colorlink\@menucolor#2%
9559      \close@pdflink
9560      }%
9561      }

```

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

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

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

Since version 2011/10/05 v1.16 of package 'atbegshi' `\AtBeginShipoutFirst` does not add a additional box layer.

```

9562 \def\Hy@FixNotFirstPage{%
9563   \gdef\Hy@FixNotFirstPage{%
9564     \setbox\AtBeginShipoutBox=\hbox{%
9565       \copy\AtBeginShipoutBox
9566     }%
9567   }%
9568 }
9569 \ltx@ifpackagelater{atbegshi}{2011/10/05}{%
9570 }{%
9571   \AtBeginShipout{\Hy@FixNotFirstPage}%
9572 }
9573 \</pdfTeX>

```

### 46.3 hypertext

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

**href:** html:<a href = "href\_string">

**name:** html:<a name = "name\_string">

**end:** html:</a>

**image:** html:<img src = "href\_string">

**base\_name:** html:<base href = "href\_string">

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base\_name* command is be used

to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

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

```

9574 (*hypertext)
9575 \providecommand*\XR@ext}{dvi}
9576 \let\PDF@FinishDoc\ltx@empty
9577 \def\PDF@SetupDoc{%
9578   \ifx\@baseurl\@empty
9579   \else
9580     \special{html:<base href="\@baseurl">}%
9581   \fi
9582 }
9583 \Hy@WrapperDef\hyper@anchor#1{%
9584   \Hy@SaveLastskip
9585   \Hy@VerboseAnchor{#1}%
9586   \begingroup
9587     \let\protect=\string
9588     \hyper@chars
9589     \special{html:<a name=%
9590       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9591   \endgroup
9592   \Hy@activeanchortrue
9593   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9594   \special{html:</a>}%
9595   \Hy@activeanchorfalse
9596   \Hy@RestoreLastskip
9597 }
9598 \Hy@WrapperDef\hyper@anchorstart#1{%
9599   \Hy@SaveLastskip
9600   \Hy@VerboseAnchor{#1}%
9601   \begingroup
9602     \hyper@chars
9603     \special{html:<a name=%
9604       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9605   \endgroup
9606   \Hy@activeanchortrue
9607 }
9608 \def\hyper@anchorend{%
9609   \special{html:</a>}%
9610   \Hy@activeanchorfalse
9611   \Hy@RestoreLastskip
9612 }
9613 \def\@urltype{url}
9614 \def\hyper@linkstart#1#2{%
9615   \Hy@VerboseLinkStart{#1}{#2}%

```

```

9616 \expandafter\Hy@colorlink\csname @#1color\endcsname
9617 \def\Hy@tempa{#1}%
9618 \ifx\Hy@tempa\@urlltype
9619   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9620 \else
9621   \begingroup
9622     \hyper@chars
9623     \special{html:<a href=%
9624       \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9625   \endgroup
9626 \fi
9627 }
9628 \def\hyper@linkend{%
9629   \special{html:</a>}%
9630 \Hy@endcolorlink
9631 }
9632 \def\hyper@linkfile#1#2#3{%
9633   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9634 }
9635 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why L<sup>A</sup>T<sub>E</sub>X constructs make this totally foul up, and make us revert to basic T<sub>E</sub>X. I do not know.

```

9636 \leavevmode
9637 \ifHy@raiselinks
9638   \Hy@SaveSpaceFactor
9639   \Hy@SaveSavedSpaceFactor
9640   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9641   \Hy@RestoreSavedSpaceFactor
9642   \@linkdim\dp\@tempboxa
9643   \lower\@linkdim\hbox{%
9644     \hyper@chars
9645     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9646   }%
9647   \Hy@colorlink\@urlcolor
9648   \Hy@RestoreSpaceFactor
9649   #1%
9650   \Hy@SaveSpaceFactor
9651   \@linkdim\ht\@tempboxa

```

Because of the interaction with the dvilhs 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).

```

9652 \advance\@linkdim by -6.5\p@
9653 \raise\@linkdim\hbox{\special{html:</a>}}%
9654 \Hy@endcolorlink
9655 \Hy@RestoreSpaceFactor
9656 \else
9657   \begingroup
9658     \hyper@chars
9659     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9660     \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9661     \special{html:</a>}%
9662     \Hy@endcolorlink
9663   \endgroup
9664 \fi
9665 }

```

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

```

9666 \def\hyper@link#1#2#3{%
9667   \Hy@VerboseLinkStart{#1}{#2}%
9668   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
9669 }

9670 \def\hyper@image#1#2{%
9671   \begingroup
9672   \hyper@chars
9673   \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9674   \endgroup
9675 }
9676 </hypertex>
9677 <*dviwindo>

```

## 46.4 dviwindo

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

This was more or less blindly copied from the `hypertex` `cfg`. For `dviwindo`,  $\text{\LaTeX}$  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.

```

9678 \providecommand*\XR@ext}{dvi}
9679 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9680 \Hy@WrapperDef\hyper@anchor#1{%
9681   \Hy@SaveLastskip
9682   \Hy@VerboseAnchor{#1}%
9683   \begingroup
9684   \let\protect=\string
9685   \special{mark: #1}%
9686   \endgroup
9687   \Hy@activeanchortrue
9688   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9689   \Hy@activeanchorfalse
9690   \Hy@RestoreLastskip
9691 }
9692 \Hy@WrapperDef\hyper@anchorstart#1{%
9693   \Hy@SaveLastskip
9694   \Hy@VerboseAnchor{#1}%
9695   \special{mark: #1}%
9696   \Hy@activeanchortrue
9697 }
9698 \def\hyper@anchorend{%
9699   \Hy@activeanchorfalse
9700   \Hy@RestoreLastskip
9701 }
9702 \def\hyper@linkstart#1#2{%
9703   \Hy@VerboseLinkStart{#1}{#2}%
9704   \expandafter\Hy@colorlink\csname @#1color\endcsname
9705   \special{button: %

```



```

9706 10000000 %
9707 \number\baselineskip\space
9708 #2%
9709 }%
9710 }
9711 \def\hyper@linkend{%
9712 \Hy@endcolorlink
9713 }
9714 \def\hyper@link#1#2#3{%
9715 \Hy@VerboseLinkStart{#1}{#2}%
9716 \leavevmode
9717 \ifHy@raiselinks
9718 \Hy@SaveSpaceFactor
9719 \Hy@SaveSavedSpaceFactor
9720 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9721 \Hy@RestoreSavedSpaceFactor
9722 \@linkdim\dp\@tempboxa
9723 \lower\@linkdim\hbox{%
9724 \special{button: %
9725 \number\wd\@tempboxa\space
9726 \number\ht\@tempboxa\space
9727 #2%
9728 }%
9729 \expandafter\Hy@colorlink\csname @#1color\endcsname
9730 \Hy@RestoreSpaceFactor
9731 #3\Hy@xspace@end
9732 \Hy@SaveSpaceFactor
9733 \Hy@endcolorlink
9734 }%
9735 \@linkdim\ht\@tempboxa
9736 \advance\@linkdim by -6.5\p@
9737 \raise\@linkdim\hbox{}%
9738 \Hy@RestoreSpaceFactor
9739 \else
9740 \special{button: %
9741 \number\wd\@tempboxa\space
9742 \number\ht\@tempboxa\space
9743 #2%
9744 }%
9745 \expandafter\Hy@colorlink\csname @#1color\endcsname
9746 #3\Hy@xspace@end
9747 \Hy@endcolorlink
9748 \fi
9749 }
9750 \def\hyper@linkurl#1#2{%
9751 \begingroup
9752 \hyper@chars
9753 \leavevmode
9754 \ifHy@raiselinks
9755 \Hy@SaveSpaceFactor
9756 \Hy@SaveSavedSpaceFactor
9757 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9758 \Hy@RestoreSavedSpaceFactor
9759 \@linkdim\dp\@tempboxa
9760 \lower\@linkdim\hbox{%
9761 \special{button: %
9762 \number\wd\@tempboxa\space

```

```

9763      \number\ht\@tempboxa\space
9764      launch: \wwwbrowser\space
9765      #2%
9766  }%
9767  \Hy@colorlink\@urlcolor
9768  \Hy@RestoreSpaceFactor
9769  #1\Hy@xspace@end
9770  \Hy@SaveSpaceFactor
9771  \Hy@endcolorlink
9772  }%
9773  \@linkdim\ht\@tempboxa
9774  \advance\@linkdim by -6.5\p@
9775  \raise\@linkdim\hbox{}%
9776  \Hy@RestoreSpaceFactor
9777  \else
9778  \special{button: %
9779  \number\wd\@tempboxa\space
9780  \number\ht\@tempboxa\space
9781  launch: \wwwbrowser\space
9782  #2%
9783  }%
9784  \Hy@colorlink\@urlcolor
9785  #1\Hy@xspace@end
9786  \Hy@endcolorlink
9787  \fi
9788  \endgroup
9789 }
9790 \def\hyper@linkfile#1#2#3{%
9791  \begingroup
9792  \hyper@chars
9793  \leavevmode
9794  \ifHy@raiselinks
9795  \Hy@SaveSpaceFactor
9796  \Hy@SaveSavedSpaceFactor
9797  \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9798  \Hy@RestoreSavedSpaceFactor
9799  \@linkdim\dp\@tempboxa
9800  \lower\@linkdim\hbox{%
9801  \special{button: %
9802  \number\wd\@tempboxa\space
9803  \number\ht\@tempboxa\space
9804  #3,%
9805  file: #2%
9806  }%
9807  \Hy@colorlink\@filecolor
9808  \Hy@RestoreSpaceFactor
9809  #1\Hy@xspace@end
9810  \Hy@SaveSpaceFactor
9811  \Hy@endcolorlink
9812  }%
9813  \@linkdim\ht\@tempboxa
9814  \advance\@linkdim by -6.5\p@
9815  \raise\@linkdim\hbox{}%
9816  \Hy@RestoreSpaceFactor
9817  \else
9818  \special{button: %
9819  \number\wd\@tempboxa\space

```

```

9820     \number\ht\@tempboxa\space
9821     #3,%
9822     file: #2%
9823 }%
9824 \Hy@colorlink\@filecolor
9825 #1\Hy@xspace@end
9826 \Hy@endcolorlink
9827 \fi
9828 \endgroup
9829 }
9830 \ifx\@pdfproducer\relax
9831 \def\@pdfproducer{dviwindo + Distiller}%
9832 \fi
9833 \HyInfo@AddonUnsupportedtrue
9834 \def\PDF@FinishDoc{%
9835 \Hy@UseMaketitleInfos
9836 \HyInfo@TrappedUnsupported
9837 \special{PDF: Keywords \@pdfkeywords}%
9838 \special{PDF: Title \@pdftitle}%
9839 \special{PDF: Creator \@pdfcreator}%
9840 \ifx\@pdfcreationdate\@empty
9841 \else
9842 \special{PDF: CreationDate \@pdfcreationdate}%
9843 \fi
9844 \ifx\@pdfmoddate\@empty
9845 \else
9846 \special{PDF: ModDate \@pdfmoddate}%
9847 \fi
9848 \special{PDF: Author \@pdfauthor}%
9849 \ifx\@pdfproducer\relax
9850 \else
9851 \special{PDF: Producer \@pdfproducer}%
9852 \fi
9853 \special{PDF: Subject \@pdfsubject}%
9854 \Hy@DisableOption{pdfauthor}%
9855 \Hy@DisableOption{pdftitle}%
9856 \Hy@DisableOption{pdfsubject}%
9857 \Hy@DisableOption{pdfcreator}%
9858 \Hy@DisableOption{pdfcreationdate}%
9859 \Hy@DisableOption{pdfmoddate}%
9860 \Hy@DisableOption{pdfproducer}%
9861 \Hy@DisableOption{pdfkeywords}%
9862 \Hy@DisableOption{pdftrapped}%
9863 \Hy@DisableOption{pdfinfo}%
9864 }
9865 \def\PDF@SetupDoc{%
9866 \ifx\@baseurl\@empty
9867 \else
9868 \special{PDF: Base \@baseurl}%
9869 \fi
9870 \ifx\@pdfpagescrop\@empty\else
9871 \special{PDF: BBox \@pdfpagescrop}%
9872 \fi
9873 \def\Hy@temp{}%
9874 \ifx\@pdfstartpage\@empty
9875 \else
9876 \ifx\@pdfstartview\@empty

```

```

9877 \else
9878 \edef\Hy@temp{%
9879 ,Page=\@pdfstartpage
9880 ,View=\@pdfstartview
9881 }%
9882 \fi
9883 \fi
9884 \edef\Hy@temp{%
9885 \noexpand\pdfmark{%
9886 pdfmark=/DOCVIEW,%
9887 PageMode=/\@pdfpagemode
9888 \Hy@temp
9889 }%
9890 }%
9891 \Hy@temp
9892 \ifx\@pdfpagescrop\@empty
9893 \else
9894 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9895 \fi
9896 \edef\Hy@temp{%
9897 \ifHy@pdftoolbar\else /HideToolbar true\fi
9898 \ifHy@pdfmenubar\else /HideMenubar true\fi
9899 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9900 \ifHy@pdffitwindow /FitWindow true\fi
9901 \ifHy@pdfcenterwindow /CenterWindow true\fi
9902 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9903 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9904 \Hy@UseNameKey{Direction}\@pdfdirection
9905 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9906 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9907 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9908 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9909 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9910 \Hy@UseNameKey{Duplex}\@pdfduplex
9911 \ifx\@pdfpicktraybypdfsize\@empty
9912 \else
9913 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9914 \fi
9915 \ifx\@pdfprintpagerange\@empty
9916 \else
9917 /PrintPageRange[\@pdfprintpagerange]%
9918 \fi
9919 \ifx\@pdfnumcopies\@empty
9920 \else
9921 /NumCopies \@pdfnumcopies
9922 \fi
9923 }%
9924 \pdfmark{pdfmark=/PUT,%
9925 Raw={%
9926 \string{Catalog\string}<<%
9927 \ifx\Hy@temp\@empty
9928 \else
9929 /ViewerPreferences<<\Hy@temp>>%
9930 \fi
9931 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9932 \ifx\@pdflang\@empty
9933 \else

```

```

9934      /Lang(\@pdflang)%
9935      \fi
9936      >>%
9937  }%
9938 }%
9939 }
9940 </dviwindo>
9941 < *dvipdfm | xetex>

```

## 46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

9942 \providecommand*\XR@ext}{pdf}
9943 \Hy@setbreaklinks{true}
9944 \def\HyPat@ObjRef{%
9945   @[\ ]+{%
9946 }
9947 \newsavebox{\pdfm@box}
9948 \def\@pdfm@mark#1{\special{pdf:#1}}
9949 \Hy@WrapperDef\@pdfm@dest#1{%
9950   \Hy@SaveLastskip
9951   \Hy@VerboseAnchor{#1}%
9952   \begingroup
9953     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9954     \def\x{XYZ}%
9955     \ifx\x\@pdfview
9956       \def\x{XYZ @xpos @ypos null}%
9957     \else
9958       \def\x{FitH}%
9959       \ifx\x\@pdfview
9960         \def\x{FitH @ypos}%
9961       \else
9962         \def\x{FitBH}%
9963         \ifx\x\@pdfview
9964           \def\x{FitBH @ypos}%
9965         \else
9966           \def\x{FitV}%
9967           \ifx\x\@pdfview
9968             \def\x{FitV @xpos}%
9969           \else
9970             \def\x{FitBV}%
9971             \ifx\x\@pdfview
9972               \def\x{FitBV @xpos}%
9973             \else
9974               \def\x{Fit}%
9975               \ifx\x\@pdfview
9976                 \let\x\@pdfview
9977               \else
9978                 \def\x{FitB}%
9979                 \ifx\x\@pdfview
9980                   \let\x\@pdfview
9981                 \else
9982                   \def\x{FitR}%
9983                   \ifx\x\@pdfview
9984                     \Hy@Warning{'pdfview=FitR' is not supported}%
9985                     \def\x{XYZ @xpos @ypos null}%
9986                   \else

```

```

9987         \@onelevel@sanitize\@pdfview
9988         \Hy@Warning{%
9989             Unknown value '\@pdfview' for pdfview%
9990         }%
9991         \def\x{XYZ @xpos @ypos null}%
9992     \fi
9993 \fi
9994 \fi
9995 \fi
9996 \fi
9997 \fi
9998 \fi
9999 \fi
10000 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
10001 \endgroup
10002 \Hy@RestoreLastskip
10003 }
10004 \providecommand*\@pdfview{XYZ}
10005 \providecommand*\@pdfborder{0 0 1}
10006 \providecommand*\@pdfborderstyle{}
10007 \def\hyper@anchor#1{%
10008     \@pdfm@dest{#1}%
10009 }
10010 \def\hyper@anchorstart#1{%
10011     \Hy@activeanchortrue
10012     \@pdfm@dest{#1}%
10013 }
10014 \def\hyper@anchorend{%
10015     \Hy@activeanchorfalse
10016 }
10017 \newcounter{Hy@AnnotLevel}
10018 \ifHy@ocgcolorlinks
10019     \def\OBJ@OCG@view{@OCG@view}%
10020     \@pdfm@mark{%
10021         obj \OBJ@OCG@view <<%
10022         /Type/OCG%
10023         /Name(View)%
10024         /Usage<<%
10025         /Print<<%
10026         /PrintState/OFF%
10027         >>%
10028         /View<<%
10029         /ViewState/ON%
10030         >>%
10031         >>%
10032         >>%
10033     }%
10034     \@pdfm@mark{close \OBJ@OCG@view}%
10035     \def\OBJ@OCG@print{@OCG@print}%
10036     \@pdfm@mark{%
10037         obj \OBJ@OCG@print <<%
10038         /Type/OCG%
10039         /Name(Print)%
10040         /Usage<<%
10041         /Print<<%
10042         /PrintState/ON%
10043         >>%

```

```

10044     /View<<%
10045     /ViewState/OFF%
10046     >>%
10047     >>%
10048     >>%
10049 }%
10050 \@pdfm@mark{close \OBJ@OCG@print}%
10051 \def\OBJ@OCGs{@OCGs}%
10052 \@pdfm@mark{%
10053   obj \OBJ@OCGs [%
10054     \OBJ@OCG@view\space\OBJ@OCG@print
10055   ]%
10056 }%
10057 \@pdfm@mark{close \OBJ@OCGs}%
10058 \@pdfm@mark{%
10059   put @catalog <<%
10060     /OCProperties<<%
10061     /OCGs \OBJ@OCGs
10062     /D<<%
10063     /OFF[\OBJ@OCG@print]%
10064     /AS[%
10065       <<%
10066         /Event/View%
10067         /OCGs \OBJ@OCGs
10068         /Category[/View]%
10069       >>%
10070       <<%
10071         /Event/Print%
10072         /OCGs \OBJ@OCGs
10073         /Category[/Print]%
10074       >>%
10075       <<%
10076         /Event/Export%
10077         /OCGs \OBJ@OCGs
10078         /Category[/Print]%
10079       >>%
10080     ]%
10081     >>%
10082     >>%
10083     >>%
10084 }%
10085 \AtBeginShipout{%
10086   \setbox\AtBeginShipoutBox=\hbox{%
10087     \copy\AtBeginShipoutBox
10088     \@pdfm@mark{%
10089       put @resources <<%
10090         /Properties<<%
10091         /OCView \OBJ@OCG@view
10092         /OCPrint \OBJ@OCG@print
10093       >>%
10094       >>%
10095     }%
10096   }%
10097 }%
10098 \Hy@AtBeginDocument{%
10099   \def\Hy@colorlink#1{%
10100     \begingroup

```

```

10101 \ifHy@ocgcolorlinks
10102 \def\Hy@ocgcolor{#1}%
10103 \setbox0=\hbox\bgroup\color@begingroup
10104 \else
10105 \HyColor@UseColor#1%
10106 \fi
10107 }%
10108 \def\Hy@endcolorlink{%
10109 \ifHy@ocgcolorlinks
10110 \color@endgroup\egroup
10111 \mbox{%
10112 \@pdfm@mark{content /OC/OCPrint BDC}%
10113 \rlap{\copy0}%
10114 \@pdfm@mark{content EMC/OC/OCView BDC}%
10115 \begingroup
10116 \expandafter\HyColor@UseColor\Hy@ocgcolor
10117 \box0 %
10118 \endgroup
10119 \@pdfm@mark{content EMC}%
10120 }%
10121 \fi
10122 \endgroup
10123 }%
10124 }%
10125 \else
10126 \Hy@DisableOption{ocgcolorlinks}%
10127 \fi

10128 \def\Hy@BeginAnnot#1{%
10129 \stepcounter{Hy@AnnotLevel}%
10130 \ifnum\value{Hy@AnnotLevel}=\@ne
10131 #1%
10132 \fi
10133 }
10134 \def\Hy@endAnnot{%
10135 \ifnum\value{Hy@AnnotLevel}=\@ne
10136 \Hy@endcolorlink
10137 \@pdfm@mark{eann}%
10138 \fi
10139 \addtocounter{Hy@AnnotLevel}\m@ne
10140 }

10141 \def\Hy@undefinedname{UNDEFINED}
10142 \def\hyper@linkstart#1#2{%
10143 \Hy@VerboseLinkStart{#1}{#2}%
10144 \leavevmode
10145 \Hy@BeginAnnot{%
10146 \protected@edef\Hy@testname{#2}%
10147 \ifx\Hy@testname\@empty
10148 \Hy@Warning{%
10149 Empty destination name,\MessageBreak
10150 using '\Hy@undefinedname'%
10151 }%
10152 \let\Hy@testname\Hy@undefinedname
10153 \else
10154 \Hy@pstringdef\Hy@testname{%
10155 \expandafter\HyperDestNameFilter\expandafter{%
10156 \Hy@testname
10157 }%

```



```

10158 }%
10159 \fi
10160 \@pdfm@mark{%
10161   bann<<%
10162   /Type/Annot%
10163   /Subtype/Link%
10164   \ifHy@pdfa /F 4\fi
10165   \Hy@setpdfborder
10166   \expandafter\ifx\csname @#1bordercolor\endcsname\relax
10167   \else
10168     /C[\csname @#1bordercolor\endcsname]%
10169   \fi
10170   /A<<%
10171   /S/GoTo%
10172   /D(\Hy@testname)%
10173   \Hy@href@nextactionraw
10174   >>%
10175   >>%
10176 }%
10177 \expandafter\Hy@colorlink\csname @#1color\endcsname
10178 }%
10179 }
10180 \def\hyper@linkend{\Hy@EndAnnot}%
10181 \def\hyper@link#1#2#3{%
10182   \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10183 }
10184 \def\hyper@linkfile#1#2#3{%
10185   \leavevmode
10186   \Hy@BeginAnnot{%
10187     \def\Hy@pstringF{#2}%
10188     \Hy@CleanupFile\Hy@pstringF
10189     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10190     \Hy@pstringdef\Hy@pstringD{#3}%
10191     \Hy@MakeRemoteAction
10192     \@pdfm@mark{%
10193       bann<<%
10194       /Type/Annot%
10195       /Subtype/Link%
10196       \ifHy@pdfa /F 4\fi
10197       \Hy@setpdfborder
10198       \ifx\@filebordercolor\relax
10199       \else
10200         /C[\@filebordercolor]%
10201       \fi
10202       /A<<%
10203       /S/GoToR%
10204       /F(\Hy@pstringF)%
10205       /D%
10206       \ifx\#3\%
10207         [\Hy@href@page\@pdfremotestartview]%
10208       \else
10209         (\Hy@pstringD)%
10210       \fi
10211       \Hy@SetNewWindow
10212       \Hy@href@nextactionraw
10213       >>%
10214       >>%

```

```

10215 }%
10216 \Hy@colorlink\@filecolor
10217 }%
10218 #1\Hy@xspace@end
10219 \Hy@EndAnnot
10220 }
10221 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
10222 \leavevmode
10223 \Hy@BeginAnnot{%
10224 \Hy@pstringdef\Hy@pstringF{#1}%
10225 \Hy@pstringdef\Hy@pstringP{#3}%
10226 \@pdfm@mark{%
10227 bann<<%
10228 /Type/Annot%
10229 /Subtype/Link%
10230 \ifHy@pdfa /F 4\fi
10231 \Hy@setpdfborder
10232 \ifx\@runbordercolor\relax
10233 \else
10234 /C[\@runbordercolor]%
10235 \fi
10236 /A<<%
10237 /F(\Hy@pstringF)%
10238 /S/Launch%
10239 \Hy@SetNewWindow
10240 \ifx\#3\%
10241 \else
10242 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10243 \fi
10244 \Hy@href@nextactionraw
10245 >>%
10246 >>%
10247 }%
10248 \Hy@colorlink\@runcolor
10249 }%
10250 #2\Hy@xspace@end
10251 \Hy@EndAnnot
10252 }
10253 \def\hyper@linkurl#1#2{%
10254 \leavevmode
10255 \Hy@BeginAnnot{%
10256 \Hy@pstringdef\Hy@pstringURI{#2}%
10257 \@pdfm@mark{%
10258 bann<<%
10259 /Type/Annot%
10260 /Subtype/Link%
10261 \ifHy@pdfa /F 4\fi
10262 \Hy@setpdfborder
10263 \ifx\@urlbordercolor\relax
10264 \else
10265 /C[\@urlbordercolor]%
10266 \fi
10267 /A<<%
10268 /S/URI%
10269 /URI(\Hy@pstringURI)%
10270 \ifHy@href@ismap
10271 /IsMap true%

```

```

10272      \fi
10273      \Hy@href@nextactionraw
10274      >>%
10275      >>%
10276      }%
10277      \Hy@colorlink\@urlcolor
10278      }%
10279      #1\Hy@xspace@end
10280      \Hy@EndAnnot
10281  }
10282  \def\Acrobatmenu#1#2{%
10283    \Hy@Acrobatmenu{#1}{#2}{%
10284      \Hy@BeginAnnot{%
10285        \EdefEscapeName\Hy@temp@menu{#1}%
10286        \@pdfm@mark{%
10287          bann<<%
10288            /Type/Annot%
10289            /Subtype/Link%
10290            \ifHy@pdfa /F 4\fi
10291            \Hy@setpdfborder
10292            \ifx\@menubordercolor\relax
10293              \else
10294                /C[\@menubordercolor]%
10295              \fi
10296              /A<<%
10297              /S/Named%
10298              /N/\Hy@temp@menu
10299              \Hy@href@nextactionraw
10300            >>%
10301            >>%
10302          }%
10303          \Hy@colorlink\@menucolor
10304        }%
10305        #2\Hy@xspace@end
10306        \Hy@EndAnnot
10307      }%
10308    }
10309    \ifx\@pdfproducer\relax
10310      \def\@pdfproducer{dvipdfm}%

```

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

```

10311  \begingroup\expandafter\expandafter\expandafter\endgroup
10312  \expandafter\ifx\csname XeTeXversion\endcsname\relax
10313  \else
10314    \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10315    \fi
10316  \fi
10317  \def\PDF@FinishDoc{%
10318    \Hy@UseMaketitleInfos
10319    \HyInfo@GenerateAddons
10320    \@pdfm@mark{%
10321      docinfo<<%
10322        /Title(\@pdftitle)%
10323        /Subject(\@pdfsubject)%
10324        /Creator(\@pdfcreator)%
10325        \ifx\@pdfcreationdate\@empty
10326          \else
10327            /CreationDate(\@pdfcreationdate)%

```

```

10328 \fi
10329 \ifx\@pdfmoddate\@empty
10330 \else
10331 /ModDate(\@pdfmoddate)%
10332 \fi
10333 /Author(\@pdfauthor)%
10334 \ifx\@pdfproducer\relax
10335 \else
10336 /Producer(\@pdfproducer)%
10337 \fi
10338 /Keywords(\@pdfkeywords)%
10339 \ifx\@pdftrapped\@empty
10340 \else
10341 /Trapped/\@pdftrapped
10342 \fi
10343 \HyInfo@Addons
10344 >>%
10345 }%
10346 \Hy@DisableOption{pdfauthor}%
10347 \Hy@DisableOption{pdftitle}%
10348 \Hy@DisableOption{pdfsubject}%
10349 \Hy@DisableOption{pdfcreator}%
10350 \Hy@DisableOption{pdfcreationdate}%
10351 \Hy@DisableOption{pdfmoddate}%
10352 \Hy@DisableOption{pdfproducer}%
10353 \Hy@DisableOption{pdfkeywords}%
10354 \Hy@DisableOption{pdftrapped}%
10355 \Hy@DisableOption{pdfinfo}%
10356 }

10357 \def\PDF@SetupDoc{%
10358 \edef\Hy@temp{%
10359 \ifHy@pdftoolbar\else /HideToolbar true\fi
10360 \ifHy@pdfmenubar\else /HideMenubar true\fi
10361 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10362 \ifHy@pdfwindow /FitWindow true\fi
10363 \ifHy@pdfcenterwindow /CenterWindow true\fi
10364 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10365 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10366 \Hy@UseNameKey{Direction}\@pdfdirection
10367 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10368 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10369 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10370 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10371 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10372 \Hy@UseNameKey{Duplex}\@pdfduplex
10373 \ifx\@pdfpicktraybypdfsize\@empty
10374 \else
10375 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10376 \fi
10377 \ifx\@pdfprintpagerange\@empty
10378 \else
10379 /PrintPageRange[\@pdfprintpagerange]%
10380 \fi
10381 \ifx\@pdfnumcopies\@empty
10382 \else
10383 /NumCopies \@pdfnumcopies
10384 \fi

```

```

10385 }%
10386 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10387 \@pdfm@mark{%
10388   docview<<%
10389     \ifx\@pdfstartpage\@empty
10390     \else
10391       \ifx\@pdfstartview\@empty
10392       \else
10393         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10394       \fi
10395     \fi
10396     \ifx\@baseurl\@empty
10397     \else
10398       /URI<</Base(\Hy@pstringB)>>%
10399     \fi
10400   /PageMode/\@pdfpagemode
10401   \ifx\Hy@temp\@empty
10402   \else
10403     /ViewerPreferences<<\Hy@temp>>%
10404   \fi
10405   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10406   \ifx\@pdflang\@empty
10407   \else
10408     /Lang(\@pdflang)%
10409   \fi
10410 >>%
10411 }%
10412 \ifx\@pdfpagescrop\@empty
10413 \else
10414   \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}}%
10415 \fi
10416 }
10417 </dvipdfm | xetex>
10418 < *dvipdfm | xetex>

```

#### \hyper@pagetransition

```

10419 \def\hyper@pagetransition{%
10420   \ifx\@pdfpagetransition\relax
10421   \else
10422     \ifx\@pdfpagetransition\@empty
10423     \else
10424       \special{pdf:put @thispage %
10425         <</Trans<</S/\@pdfpagetransition>>>>%
10426       }%
10427     \fi
10428   \fi
10429 }

```

#### \hyper@pageduration

```

10430 \def\hyper@pageduration{%
10431   \ifx\@pdfpageduration\relax
10432   \else
10433     \ifx\@pdfpageduration\@empty
10434     \else
10435       \special{pdf:put @thispage %
10436         <</Dur \@pdfpageduration>>%
10437     }%

```

```

10438 \fi
10439 \fi
10440 }

```

\hyper@pagehidden

```

10441 \def\hyper@pagehidden{%
10442 \ifHy@useHidKey
10443 \special{pdf:put @thispage %
10444 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10445 }%
10446 \fi
10447 }

```

```

10448 \g@addto@macro\Hy@EveryPageBoxHook{%
10449 \hyper@pagetransition
10450 \hyper@pageduration
10451 \hyper@pagehidden
10452 }

```

```

10453 </dvipdfm | xetex>

```

TeX uses pdfTeX's method \pdfpagewidth and \pdfpageheight for setting the paper size.

```

10454 <*dvipdfm>
10455 \AtBeginShipoutFirst{%
10456 \ifHy@setpagesize
10457 \begingroup
10458 \@ifundefined{stockwidth}{%
10459 \ifdim\paperwidth>\z@
10460 \ifdim\paperheight>\z@
10461 \special{papersize=\the\paperwidth,\the\paperheight}%
10462 \fi
10463 \fi
10464 }{%
10465 \ifdim\stockwidth>\z@
10466 \ifdim\stockheight>\z@
10467 \special{papersize=\the\stockwidth,\the\stockheight}%
10468 \fi
10469 \fi
10470 }%
10471 \endgroup
10472 \fi
10473 \Hy@DisableOption{setpagesize}%
10474 }
10475 </dvipdfm>

```

## 46.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

10476 <*vtexhtml>
10477 \providecommand*\XR@ext}{htm}
10478 \RequirePackage{vtexhtml}
10479 \newif\if@Localurl
10480 \let\PDF@FinishDoc\ltx@empty
10481 \def\PDF@SetupDoc{%
10482 \ifx\@baseurl\@empty
10483 \else

```

```

10484 \special{!direct <base href="\@baseurl">}%
10485 \fi
10486 }
10487 \def\@urltype{url}
10488 \def\hyper@link#1#2#3{%
10489 \Hy@VerboseLinkStart{#1}{#2}%
10490 \leavevmode
10491 \special{!direct <a href=%
10492 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10493 #3\Hy@xspace@end
10494 \special{!direct </a>}%
10495 }
10496 \def\hyper@linkurl#1#2{%
10497 \begingroup
10498 \hyper@chars
10499 \leavevmode
10500 \MathBSuppress=1\relax
10501 \special{!direct <a href=%
10502 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10503 #1\Hy@xspace@end
10504 \MathBSuppress=0\relax
10505 \special{!direct </a>}%
10506 \endgroup
10507 }
10508 \def\hyper@linkfile#1#2#3{%
10509 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10510 }
10511 \def\hyper@linkstart#1#2{%
10512 \Hy@VerboseLinkStart{#1}{#2}%
10513 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10514 \@Localurltrue
10515 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10516 \else
10517 \@Localurlfalse
10518 \begingroup
10519 \hyper@chars
10520 \special{!aref \HyperDestNameFilter{#2}}%
10521 \endgroup
10522 \fi
10523 }
10524 \def\hyper@linkend{%
10525 \if@Localurl
10526 \special{!endaref}%
10527 \else
10528 \special{!direct </a>}%
10529 \fi
10530 }
10531 \Hy@WrapperDef\hyper@anchorstart#1{%
10532 \Hy@SaveLastskip
10533 \Hy@VerboseAnchor{#1}%
10534 \begingroup
10535 \hyper@chars
10536 \special{!aname #1}%
10537 \special{!direct <a name=%
10538 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10539 \endgroup
10540 \Hy@activeanchortrue

```

```

10541 }
10542 \def\hyper@anchorend{%
10543 \special{!direct </a>}%
10544 \Hy@activeanchorfalse
10545 \Hy@RestoreLastskip
10546 }
10547 \Hy@WrapperDef\hyper@anchor#1{%
10548 \Hy@SaveLastskip
10549 \Hy@VerboseAnchor{#1}%
10550 \begingroup
10551 \let\protect=\string
10552 \hyper@chars
10553 \leavevmode
10554 \special{!aname #1}%
10555 \special{!direct <a name=%
10556 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10557 \endgroup
10558 \Hy@activeanchortrue
10559 \bgroup\anchor@spot\egroup
10560 \special{!direct </a>}%
10561 \Hy@activeanchorfalse
10562 \Hy@RestoreLastskip
10563 }
10564 \def\@Form[#1]{%
10565 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10566 }
10567 \let\@endForm\ltx@empty
10568 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10569 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10570 }
10571 \def\@TextField[#1]#2{% parameters, label
10572 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10573 }
10574 \def\@CheckBox[#1]#2{% parameters, label
10575 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10576 }
10577 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10578 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10579 }
10580 \def\@PushButton[#1]#2{% parameters, label
10581 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10582 }
10583 \def\@Reset[#1]#2{%
10584 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10585 }
10586 \def\@Submit[#1]#2{%
10587 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10588 }
10589 </vtexhtml>
10590 <*\vtex>

VTeX version 6.68 supports \mediawidth and \mediaheight. The \ifx construct
is better than a \cename, because it avoids the definition and the hash table entry
of a previous undefined macro.
10591 \ifx\mediaheight\@undefined
10592 \else
10593 \ifx\mediaheight\relax

```



```

10594 \else
10595   \ifHy@setpagesize
10596     \providecommand*\VTeXInitMediaSize{%
10597       \ltx@ifundefined{stockwidth}{%
10598         \ifdim\paperheight>0pt %
10599           \setlength\mediaheight\paperheight
10600         \fi
10601         \ifdim\paperheight>0pt %
10602           \setlength\mediawidth\paperwidth
10603         \fi
10604       }{%
10605         \ifdim\stockheight>0pt %
10606           \setlength\mediaheight\stockheight
10607         \fi
10608         \ifdim\stockwidth>0pt %
10609           \setlength\mediawidth\stockwidth
10610         \fi
10611       }%
10612     }%
10613   \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10614 \fi
10615 \Hy@DisableOption{setpagesize}%
10616 \fi
10617 \fi

```

Older versions of VTeX require xyz in lower case.

```

10618 \providecommand*\@pdfview{xyz}
10619 \providecommand*\@pdfborder{0 0 1}
10620 \providecommand*\@pdfborderstyle{}
10621 \let\CurrentBorderColor\@linkbordercolor
10622 \Hy@WrapperDef\hyper@anchor#1{%
10623   \Hy@SaveLastskip
10624   \Hy@VerboseAnchor{#1}%
10625   \begingroup
10626     \let\protect=\string
10627     \hyper@chars
10628     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10629   \endgroup
10630   \Hy@activeanchortrue
10631   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10632   \Hy@activeanchorfalse
10633   \Hy@RestoreLastskip
10634 }
10635 \Hy@WrapperDef\hyper@anchorstart#1{%
10636   \Hy@SaveLastskip
10637   \Hy@VerboseAnchor{#1}%
10638   \begingroup
10639     \hyper@chars
10640     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10641   \endgroup
10642   \Hy@activeanchortrue
10643 }
10644 \def\hyper@anchorend{%
10645   \Hy@activeanchorfalse
10646   \Hy@RestoreLastskip
10647 }
10648 \def\@urltype{url}
10649 \def\Hy@undefinedname{UNDEFINED}

```

```

10650 \def\hyper@linkstart#1#2{%
10651   \Hy@VerboseLinkStart{#1}{#2}%
10652   \Hy@pstringdef\Hy@pstringURI{#2}%
10653   \expandafter\Hy@colorlink\csname @#1color\endcsname
10654   \ltx@ifundefined{#@#1bordercolor}{%
10655     \let\CurrentBorderColor\relax
10656   }{%
10657     \edef\CurrentBorderColor{%
10658       \csname @#1bordercolor\endcsname
10659     }%
10660   }%
10661   \def\Hy@tempa{#1}%
10662   \ifx\Hy@tempa\@urlltype
10663     \special{!%
10664       aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10665         \ifHy@href@ismap
10666           /IsMap true%
10667         \fi
10668         \Hy@href@nextactionraw
10669       >,%
10670       a=<%
10671         \ifHy@pdfa /F 4\fi
10672         \Hy@setpdfborder
10673         \ifx\CurrentBorderColor\relax
10674           \else
10675             /C [\CurrentBorderColor]%
10676           \fi
10677         >%
10678       }%
10679     \else
10680       \protected@edef\Hy@testname{#2}%
10681       \ifx\Hy@testname\@empty
10682         \Hy@Warning{%
10683           Empty destination name,\MessageBreak
10684           using '\Hy@undefinedname'%
10685         }%
10686         \let\Hy@testname\Hy@undefinedname
10687       \fi
10688       \special{!%
10689         aref \expandafter\HyperDestNameFilter
10690           \expandafter{\Hy@testname};%
10691         a=<%
10692           \ifHy@pdfa /F 4\fi
10693           \Hy@setpdfborder
10694           \ifx\CurrentBorderColor\relax
10695             \else
10696               /C [\CurrentBorderColor]%
10697             \fi
10698           >%
10699         }%
10700       \fi
10701     }
10702   \def\hyper@linkend{%
10703     \special{!endaref}%
10704     \Hy@endcolorlink
10705   }
10706   \def\hyper@linkfile#1#2#3{%

```

```

10707 \leavevmode
10708 \def\Hy@pstringF{#2}%
10709 \Hy@CleanupFile\Hy@pstringF
10710 \special{!%
10711   aref <%
10712   \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
10713   f=\Hy@pstringF>#3;%
10714   a=<%
10715     \ifHy@pdfa /F 4\fi
10716     \Hy@setpdfborder
10717     \ifx\@filebordercolor\relax
10718     \else
10719       /C [\@filebordercolor]%
10720     \fi
10721   >%
10722 }%
10723 \Hy@colorlink\@filecolor
10724 #1\Hy@xspace@end
10725 \Hy@endcolorlink
10726 \special{!endaref}%
10727 }
10728 \def\hyper@linkurl#1#2{%
10729 \begingroup
10730 \Hy@pstringdef\Hy@pstringURI{#2}%
10731 \hyper@chars
10732 \leavevmode
10733 \special{!%
10734   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10735   \ifHy@href@ismap
10736     /IsMap true%
10737   \fi
10738   \Hy@href@nextactionraw
10739   >,%
10740   a=<%
10741     \ifHy@pdfa /F 4\fi
10742     \Hy@setpdfborder
10743     \ifx\@urlbordercolor\relax
10744     \else
10745       /C [\@urlbordercolor]%
10746     \fi
10747   >%
10748 }%
10749 \Hy@colorlink\@urlcolor
10750 #1\Hy@xspace@end
10751 \Hy@endcolorlink
10752 \special{!endaref}%
10753 \endgroup
10754 }
10755 \def\hyper@link#1#2#3{%
10756 \Hy@VerboseLinkStart{#1}{#2}%
10757 \ltx@ifundefined{@#1bordercolor}{%
10758 \let\CurrentBorderColor\relax
10759 }{%
10760 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10761 }%
10762 \leavevmode
10763 \protected@edef\Hy@testname{#2}%

```

```

10764 \ifx\Hy@testname\@empty
10765   \Hy@Warning{%
10766     Empty destination name,\MessageBreak
10767     using '\Hy@undefinedname'%
10768   }%
10769   \let\Hy@testname\Hy@undefinedname
10770 \fi
10771 \special{!%
10772   aref \expandafter\HyperDestNameFilter
10773     \expandafter{\Hy@testname};%
10774   a=<%
10775     \ifHy@pdfa /F 4\fi
10776     \Hy@setpdfborder
10777     \ifx\CurrentBorderColor\relax
10778       \else
10779       /C [\CurrentBorderColor]%
10780     \fi
10781   >%
10782 }%
10783 \expandafter
10784 \Hy@colorlink\cname @#1color\endcsname
10785   #3\Hy@xspace@end
10786 \Hy@endcolorlink
10787 \special{!endaref}%
10788 }
10789 \def\hyper@image#1#2{%
10790   \hyper@linkurl{#2}{#1}%
10791 }
10792 \def\@hyper@launch run:#1\#2#3{%
10793   \Hy@pstringdef\Hy@pstringF{#1}%
10794   \Hy@pstringdef\Hy@pstringP{#3}%
10795   \leavevmode
10796   \special{!aref %
10797     <u=%
10798     /Type/Action%
10799     /S/Launch%
10800     /F(\Hy@pstringF)%
10801     \Hy@SetNewWindow
10802     \ifx\#3\%
10803     \else
10804     /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10805     \fi
10806     \Hy@href@nextactionraw
10807   >:%
10808   a=<%
10809     \ifHy@pdfa /F 4\fi
10810     \Hy@setpdfborder
10811     \ifx\@runbordercolor\relax
10812     \else
10813     /C[\@runbordercolor]%
10814     \fi
10815   >%
10816 }%
10817 \Hy@colorlink\@runcolor
10818   #2\Hy@xspace@end
10819 \Hy@endcolorlink
10820 \special{!endaref}%

```

```

10821 }
10822 \def\Acrobatmenu#1#2{%
10823   \EdefEscapeName\Hy@temp@menu{#1}%
10824   \Hy@Acrobatmenu{#1}{#2}{%
10825     \special{!%
10826       aref <u=/S /Named /N /\Hy@temp@menu>;%
10827       a=<%
10828         \ifHy@pdfa /F 4\fi
10829         \Hy@setpdfborder
10830         \ifx\@menubordercolor\relax
10831           \else
10832             /C[\@menubordercolor]%
10833           \fi
10834         >%
10835       }%
10836       \Hy@colorlink\@menucolor
10837       #2\Hy@xspace@end
10838       \Hy@endcolorlink
10839       \special{!endaref}%
10840     }%
10841 }

```

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

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

Please never use \@ifundefined{V<sub>T</sub>E<sub>X</sub>version}{..}{..} *globally*.

```

10842 \ifnum\Hy@VTeXversion<702 %
10843 \else
10844   \def\hyper@pagetransition{%
10845     \ifx\@pdfpagetransition\relax
10846       \else
10847         \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

10848   \else
10849     \hvtex@parse@trans\@pdfpagetransition
10850   \fi
10851 \fi
10852 }%

```

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

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

```

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

```

Transition codes:

```

10853 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10854 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10855 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10856 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10857 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10858 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10859 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10860 \def\hvtex@par@dimension{/Dm}%
10861 \def\hvtex@par@direction{/Di}%
10862 \def\hvtex@par@duration{/D}%
10863 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

10864 \def\hvtex@gettoken{%
10865   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10866 }%

```

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

```

10867 \def\hvtex@gettoken@#1 #2\@nil{%
10868   \edef\hvtex@token{#1}%
10869   \edef\hvtex@buffer{#2}%
10870 }%
10871 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10872 \let\hvtex@trans@code\@empty
10873 \let\hvtex@param@dimension\@empty
10874 \let\hvtex@param@direction\@empty
10875 \let\hvtex@param@duration\@empty
10876 \let\hvtex@param@motion\@empty
10877 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10878 \hvtex@gettoken
10879 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10880   \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10881   \else
10882     \hvtex@gettoken
10883   \fi
10884 \fi
10885 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

10886   \hvtex@trans@params
10887 }%

```

Reentrant macro to parse optional parameters.

```

10888 \def\hvtex@trans@params{%
10889   \ifx\hvtex@buffer\@empty
10890   \else
10891     \hvtex@gettoken
10892     \let\hvtex@trans@par\hvtex@token
10893     \ifx\hvtex@buffer\@empty
10894     \else

```

```

10895     \hvtex@gettoken
10896     \ifx\hvtex@trans@par\hvtex@par@duration
/D is the effect duration in seconds. VTEX special takes it in milliseconds.

```

```

10897     \let\hvtex@param@duration\hvtex@token
10898     \else \ifx\hvtex@trans@par\hvtex@par@motion
/M can be either /I or /O
10899     \expandafter\edef\expandafter\hvtex@param@motion
10900     \expandafter{\expandafter\@gobble\hvtex@token}%
10901     \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

```

/Dm can be either /H or /V
10902     \expandafter\edef\expandafter\hvtex@param@dimension
10903     \expandafter{\expandafter\@gobble\hvtex@token}%
10904     \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).

```

10905     \let\hvtex@param@direction\hvtex@token
10906     \fi\fi\fi\fi
10907     \fi
10908     \fi
10909     \ifx\hvtex@buffer\@empty
10910     \let\next\hvtex@produce@trans
10911     \else
10912     \let\next\hvtex@trans@params
10913     \fi
10914     \next
10915 }%

```

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

```

10916 \def\hvtex@produce@trans{%
10917 \let\vtex@trans@special\@empty
10918 \if S\hvtex@trans@code
10919 \edef\vtex@trans@special{\hvtex@trans@code
10920 \hvtex@param@dimension\hvtex@param@motion}%
10921 \else\if B\hvtex@trans@code
10922 \edef\vtex@trans@special{%
10923 \hvtex@trans@code\hvtex@param@dimension
10924 }%
10925 \else\if X\hvtex@trans@code
10926 \edef\vtex@trans@special{%
10927 \hvtex@trans@code\hvtex@param@motion
10928 }%
10929 \else\if W\hvtex@trans@code
10930 \edef\vtex@trans@special{%
10931 \hvtex@trans@code\hvtex@param@direction
10932 }%
10933 \else\if D\hvtex@trans@code
10934 \let\vtex@trans@special\hvtex@trans@code
10935 \else\if R\hvtex@trans@code
10936 \let\vtex@trans@special\hvtex@trans@code
10937 \else\if G\hvtex@trans@code
10938 \edef\vtex@trans@special{%
10939 \hvtex@trans@code\hvtex@param@direction
10940 }%
10941 \fi\fi\fi\fi\fi\fi

```

```

10942 \ifx\vtex@trans@special\@empty
10943 \else
10944 \ifx\hvtex@param@duration\@empty
10945 \else
10946 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10947 \multiply\dimen@\@m
10948 \edef\vtex@trans@special{%
10949 \vtex@trans@special,\strip@pt\dimen@
10950 }%
10951 \fi

```

And all the mess is just for this.

```

10952 \special{!trans \vtex@trans@special}%
10953 \fi
10954 }%

10955 \def\hyper@pageduration{%
10956 \ifx\@pdfpageduration\relax
10957 \else
10958 \ifx\@pdfpageduration\@empty
10959 \special{!duration-}%
10960 \else
10961 \special{!duration \@pdfpageduration}%
10962 \fi
10963 \fi
10964 }%

10965 \def\hyper@pagehidden{%
10966 \ifHy@useHidKey
10967 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
10968 \fi
10969 }%

10970 \g@addto@macro\Hy@EveryPageBoxHook{%
10971 \hyper@pagetransition
10972 \hyper@pageduration
10973 \hyper@pagehidden
10974 }%
10975 \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

```

10976 \ifx\@pdfproducer\relax
10977 \def\@pdfproducer{VTeX}%
10978 \ifnum\Hy@VTeXversion>\z@
10979 \count@\VTeXversion
10980 \divide\count@ 100 %
10981 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10982 \multiply\count@ -100 %
10983 \advance\count@\VTeXversion

```



```

10984 \edef\@pdfproducer{%
10985 \@pdfproducer
10986 .\ifnum\count@<10 0\fi\the\count@
10987 \ifx\VTeXOS\@undefined\else
10988 \ifnum\VTeXOS>0 %
10989 \ifnum\VTeXOS<6 %
10990 \space(
10991 \ifcase\VTeXOS
10992 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10993 \fi
10994 )%
10995 \fi
10996 \fi
10997 \fi
10998 ,\space
10999 \ifnum\OpMode=\@ne PDF\else PS\fi
11000 \space backend%
11001 \ifx\gexmode\@undefined\else
11002 \ifnum\gexmode>\z@\space with GeX\fi
11003 \fi
11004 }%
11005 \fi
11006 \fi

```

Current `!pdfinfo` key syntax:

Key	Field	Type
<b>a</b>	<b>A</b> uthor	String
<b>b</b>	<b>C</b> rop <b>B</b> ox	String
<b>c</b>	<b>C</b> reator	String
<b>k</b>	<b>K</b> eywords	String
<b>l</b>	<b>P</b> age <b>L</b> ayout	PS
<b>p</b>	<b>P</b> age <b>M</b> ode	PS
<b>r</b>	<b>P</b> roducer	String
<b>s</b>	<b>S</b> ubject	String
<b>t</b>	<b>T</b> itle	String
<b>u</b>	<b>U</b> RI	PS
<b>v</b>	<b>V</b> iew <b>P</b> references	PS

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

```

11007 \def\PDF@SetupDoc{%
11008 \ifx\@pdfpagescrop\@empty
11009 \else
11010 \special{!pdfinfo b=<\@pdfpagescrop>}%
11011 \fi
11012 \ifx\@pdfstartpage\@empty
11013 \else
11014 \ifx\@pdfstartview\@empty
11015 \else
11016 \special{!onopen Page\@pdfstartpage}%
11017 \fi
11018 \fi
11019 \special{!pdfinfo p=</\@pdfpagemode>}%
11020 \ifx\@baseurl\@empty
11021 \else
11022 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
11023 \fi
11024 \special{!pdfinfo v=<<<%
11025 \ifHy@pdftoolbar\else /HideToolbar true\fi

```

```

11026 \ifHy@pdfmenubar\else /HideMenubar true\fi
11027 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11028 \ifHy@pdfwindow /FitWindow true\fi
11029 \ifHy@pdfcenterwindow /CenterWindow true\fi
11030 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11031 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11032 \Hy@UseNameKey{Direction}\@pdfdirection
11033 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11034 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11035 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11036 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11037 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11038 \Hy@UseNameKey{Duplex}\@pdfduplex
11039 \ifx\@pdfpicktraybypdfsize\@empty
11040 \else
11041 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11042 \fi
11043 \ifx\@pdfprintpagerange\@empty
11044 \else
11045 /PrintPageRange[\@pdfprintpagerange]%
11046 \fi
11047 \ifx\@pdfnumcopies\@empty
11048 \else
11049 /NumCopies \@pdfnumcopies
11050 \fi
11051 >>>}%
11052 \ifx\@pdfpagelayout\@empty
11053 \else
11054 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
11055 \fi
11056 }%
11057 \HyInfo@AddonUnsupportedtrue
11058 \define@key{Hyp}{pdfcreationdate}{%
11059 \Hy@Warning{%
11060 VTeX does not support pdfcreationdate.\MessageBreak
11061 Therefore its setting is ignored%
11062 }%
11063 }
11064 \define@key{Hyp}{pdfmoddate}{%
11065 \Hy@Warning{%
11066 VTeX does not support pdfmoddate.\MessageBreak
11067 Therefore its setting is ignored%
11068 }%
11069 }
11070 \def\PDF@FinishDoc{%
11071 \Hy@UseMaketitleInfos
11072 \HyInfo@TrappedUnsupported
11073 \special{!pdfinfo a=<\@pdfauthor>}%
11074 \special{!pdfinfo t=<\@pdftitle>}%
11075 \special{!pdfinfo s=<\@pdfsubject>}%
11076 \special{!pdfinfo c=<\@pdfcreator>}%
11077 \ifx\@pdfproducer\relax
11078 \else
11079 \special{!pdfinfo r=<\@pdfproducer>}%
11080 \fi
11081 \special{!pdfinfo k=<\@pdfkeywords>}%
11082 \Hy@DisableOption{pdfauthor}%

```

```

11083 \Hy@DisableOption{pdftitle}%
11084 \Hy@DisableOption{pdfsubject}%
11085 \Hy@DisableOption{pdfcreator}%
11086 \Hy@DisableOption{pdfcreationdate}%
11087 \Hy@DisableOption{pdfmoddate}%
11088 \Hy@DisableOption{pdfproducer}%
11089 \Hy@DisableOption{pdfkeywords}%
11090 \Hy@DisableOption{pdftrapped}%
11091 \Hy@DisableOption{pdfinfo}%
11092 }
11093 </vtx>

```

## 46.7 Fix for Adobe bug number 466320

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

```

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

```

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

```

11094 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
11095 <package>\providecommand*{\Hy@DistillerDestFix}{}
11096 <*pdfmark | dviwindo>
11097 \def\Hy@DistillerDestFix{%
11098   \begingroup
11099   \let\x\literalps@out

```

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

```

11100   \ifnum \@ifundefined{OpMode}{0}{}%
11101     \@ifundefined{gexmode}{0}{}%
11102     \ifnum\gexmode>0 \OpMode\else 0\fi
11103   }>1 %
11104   \def\x##1{%
11105     \immediate\special{!=##1}%
11106   }%
11107   \fi
11108   \x{%
11109     /product where{%
11110       pop %
11111       product(Distiller)search{%
11112         pop pop pop %
11113         version(.)search{%
11114           exch pop exch pop%
11115           (3011)eq{%
11116             gsave %
11117             newpath 0 0 moveto closepath clip%
11118             /Courier findfont 10 scalefont setfont %
11119             72 72 moveto(.)show %
11120             grestore%
11121           }if%
11122         }{pop}ifelse%
11123       }{pop}ifelse%
11124     }if%

```

```

11125 }%
11126 \endgroup
11127 }
11128 </pdfmark | dviwindo>

```

## 46.8 Direct pdfmark support

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

```

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

```

and the correct definitions of the following PostScript procedures:

```

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

```

```

11129 <*pdfmark>
11130 \Hy@breaklinks@unsupported
11131 \def\HyPat@ObjRef{%
11132   \[~{}]+\}%
11133 }
11134 \Hy@WrapperDef\hyper@anchor#1{%
11135   \Hy@SaveLastskip
11136   \Hy@VerboseAnchor{#1}%
11137   \begingroup
11138     \pdfmark[\anchor@spot]{%
11139       pdfmark=/DEST,%
11140       linktype=anchor,%
11141       View=/\@pdfview \@pdfviewparams,%
11142       DestAnchor={#1}%
11143     }%
11144   \endgroup
11145   \Hy@RestoreLastskip
11146 }
11147 \ltx@ifundefined{hyper@anchorstart}{\endinput}
11148 \Hy@WrapperDef\hyper@anchorstart#1{%
11149   \Hy@SaveLastskip
11150   \Hy@VerboseAnchor{#1}%
11151   \literalps@out{H.S}%
11152   \Hy@AllowHyphens
11153   \xdef\hyper@currentanchor{#1}%
11154   \Hy@activeanchortrue
11155 }
11156 \def\hyper@anchorend{%
11157   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11158   \pdfmark{%
11159     pdfmark=/DEST,%
11160     linktype=anchor,%
11161     View=/\@pdfview \@pdfviewparams,%
11162     DestAnchor=\hyper@currentanchor,%
11163   }%
11164   \Hy@activeanchortrue
11165   \Hy@RestoreLastskip

```

```

11166 }
11167 \def\hyper@linkstart#1#2{%
11168   \Hy@VerboseLinkStart{#1}{#2}%
11169   \ifHy@breaklinks
11170   \else
11171     \leavevmode
11172     \ifmmode
11173       \def\Hy@LinkMath{$}%
11174     \else
11175       \let\Hy@LinkMath\ltx@empty
11176     \fi
11177     \Hy@SaveSpaceFactor
11178     \hbox\bgroup
11179     \Hy@RestoreSpaceFactor
11180     \Hy@LinkMath
11181   \fi
11182   \expandafter\Hy@colorlink\csname @#1color\endcsname
11183   \literalps@out{H.S}%
11184   \Hy@AllowHyphens
11185   \xdef\hyper@currentanchor{#2}%
11186   \gdef\hyper@currentlinktype{#1}%
11187 }
11188 \def\hyper@linkend{%
11189   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11190   \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11191     \let\Hy@tempcolor\relax
11192   }{%
11193     \edef\Hy@tempcolor{%
11194       \csname @\hyper@currentlinktype bordercolor\endcsname
11195     }%
11196   }%
11197   \pdfmark{%
11198     pdfmark=/ANN,%
11199     linktype=link,%
11200     Subtype=/Link,%
11201     PDFAMFlags=4,%
11202     Dest=\hyper@currentanchor,%
11203     AcroHighlight=\@pdfhighlight,%
11204     Border=\@pdfborder,%
11205     BorderStyle=\@pdfborderstyle,%
11206     Color=\Hy@tempcolor,%
11207     Raw=H.B%
11208   }%
11209   \Hy@endcolorlink
11210   \ifHy@breaklinks
11211   \else
11212     \Hy@LinkMath
11213     \Hy@SaveSpaceFactor
11214     \egroup
11215     \Hy@RestoreSpaceFactor
11216   \fi
11217 }

```

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.

```

11218 \begingroup
11219 \catcode'P=12 %

```

```

11220 \catcode'T=12 %
11221 \lowercase{\endgroup
11222 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11223 }
11224 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

#### \hyper@pagetransition

```

11225 \def\hyper@pagetransition{%
11226 \ifx\@pdfpagetransition\relax
11227 \else
11228 \ifx\@pdfpagetransition\@empty
11229 % 1. Does an old entry have to be deleted?
11230 % 2. If 1=yes, how to delete?
11231 \else
11232 \pdfmark{%
11233 pdfmark=/PUT,%
11234 Raw={%
11235 \string{ThisPage\string}%
11236 <</Trans << /S /\@pdfpagetransition\space >> >>%
11237 }%
11238 }%
11239 \fi
11240 \fi
11241 }

```

#### \hyper@pageduration

```

11242 \def\hyper@pageduration{%
11243 \ifx\@pdfpageduration\relax
11244 \else
11245 \ifx\@pdfpageduration\@empty
11246 % 1. Does an old entry have to be deleted?
11247 % 2. If 1=yes, how to delete?
11248 \else
11249 \pdfmark{%
11250 pdfmark=/PUT,%
11251 Raw={%
11252 \string{ThisPage\string}%
11253 <</Dur \@pdfpageduration>>%
11254 }%
11255 }%
11256 \fi
11257 \fi
11258 }

```

#### \hyper@pagehidden

```

11259 \def\hyper@pagehidden{%
11260 \ifHy@useHidKey
11261 \pdfmark{%
11262 pdfmark=/PUT,%
11263 Raw={%
11264 \string{ThisPage\string}%
11265 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11266 }%
11267 }%
11268 \fi
11269 }

```

```

11270 \g@addto@macro\Hy@EveryPageBoxHook{%
11271   \hyper@pagetransition
11272   \hyper@pageduration
11273   \hyper@pagehidden
11274 }

11275 \def\hyper@image#1#2{%
11276   \hyper@linkurl{#2}{#1}%
11277 }
11278 \def\Hy@undefinedname{UNDEFINED}
11279 \def\hyper@link#1#2#3{%
11280   \Hy@VerboseLinkStart{#1}{#2}%
11281   \ltx@ifundefined{c#1bordercolor}{%
11282     \let\Hy@tempcolor\relax
11283   }{%
11284     \edef\Hy@tempcolor{\csname c#1bordercolor\endcsname}%
11285   }%
11286   \begingroup
11287     \protected@edef\Hy@testname{#2}%
11288     \ifx\Hy@testname\@empty
11289       \Hy@Warning{%
11290         Empty destination name,\MessageBreak
11291         using '\Hy@undefinedname'%
11292       }%
11293       \let\Hy@testname\Hy@undefinedname
11294     \fi
11295     \pdfmark[{#3}]{%
11296       Color=\Hy@tempcolor,%
11297       linktype={#1},%
11298       AcroHighlight=\@pdfhighlight,%
11299       Border=\@pdfborder,%
11300       BorderStyle=\@pdfborderstyle,%
11301       pdfmark=/ANN,%
11302       Subtype=/Link,%
11303       PDFAFlags=4,%
11304       Dest=\Hy@testname
11305     }%
11306   \endgroup
11307 }
11308 \newtoks\pdf@docset
11309 \def\PDF@FinishDoc{%
11310   \Hy@UseMaketitleInfos
11311   \HyInfo@GenerateAddons
11312   \let\Hy@temp\@empty
11313   \ifx\@pdfcreationdate\@empty
11314   \else
11315     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11316   \fi
11317   \ifx\@pdfmoddate\@empty
11318   \else
11319     \expandafter\def\expandafter\Hy@temp\expandafter{%
11320       \Hy@temp
11321       ModDate=\@pdfmoddate,%
11322     }%
11323   \fi
11324   \ifx\@pdfproducer\relax
11325   \else
11326     \expandafter\def\expandafter\Hy@temp\expandafter{%

```

```

11327 \Hy@temp
11328 Producer=\@pdfproducer,%
11329 }%
11330 \fi
11331 \expandafter
11332 \pdfmark\expandafter{%
11333 \Hy@temp
11334 pdfmark=/DOCINFO,%
11335 Title=\@pdftitle,%
11336 Subject=\@pdfsubject,%
11337 Creator=\@pdfcreator,%
11338 Author=\@pdfauthor,%
11339 Keywords=\@pdfkeywords,%
11340 Trapped=\@pdftrapped
11341 }%
11342 \ifx\HyInfo@Addons\@empty
11343 \else
11344 \pdfmark{%
11345 pdfmark=/DOCINFO,%
11346 Raw={\HyInfo@Addons}%
11347 }%
11348 \fi
11349 \Hy@DisableOption{pdfauthor}%
11350 \Hy@DisableOption{pdftitle}%
11351 \Hy@DisableOption{pdfsubject}%
11352 \Hy@DisableOption{pdfcreator}%
11353 \Hy@DisableOption{pdfcreationdate}%
11354 \Hy@DisableOption{pdfmoddate}%
11355 \Hy@DisableOption{pdfproducer}%
11356 \Hy@DisableOption{pdfkeywords}%
11357 \Hy@DisableOption{pdftrapped}%
11358 \Hy@DisableOption{pdfinfo}%
11359 }
11360 \def\PDF@SetupDoc{%
11361 \def\Hy@temp{}%
11362 \ifx\@pdfstartpage\@empty
11363 \else
11364 \ifx\@pdfstartview\@empty
11365 \else
11366 \edef\Hy@temp{%
11367 ,Page=\@pdfstartpage
11368 ,View=\@pdfstartview
11369 }%
11370 \fi
11371 \fi
11372 \edef\Hy@temp{%
11373 \noexpand\pdfmark{%
11374 pdfmark=/DOCVIEW,%
11375 PageMode=/\@pdfpagemode
11376 \Hy@temp
11377 }%
11378 }%
11379 \Hy@temp
11380 \ifx\@pdfpagescrop\@empty
11381 \else
11382 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11383 \fi

```



```

11384 \edef\Hy@temp{%
11385   \ifHy@pdftoolbar\else /HideToolbar true\fi
11386   \ifHy@pdfmenubar\else /HideMenubar true\fi
11387   \ifHy@pdfwindowui\else /HideWindowUI true\fi
11388   \ifHy@pdfwindow /FitWindow true\fi
11389   \ifHy@pdfcenterwindow /CenterWindow true\fi
11390   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11391   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11392   \Hy@UseNameKey{Direction}\@pdfdirection
11393   \Hy@UseNameKey{ViewArea}\@pdfviewarea
11394   \Hy@UseNameKey{ViewClip}\@pdfviewclip
11395   \Hy@UseNameKey{PrintArea}\@pdfprintarea
11396   \Hy@UseNameKey{PrintClip}\@pdfprintclip
11397   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11398   \Hy@UseNameKey{Duplex}\@pdfduplex
11399   \ifx\@pdfpicktraybypdfsize\@empty
11400   \else
11401     /PickTrayByPDFSize \@pdfpicktraybypdfsize
11402   \fi
11403   \ifx\@pdfprintpagerange\@empty
11404   \else
11405     /PrintPageRange[\@pdfprintpagerange]%
11406   \fi
11407   \ifx\@pdfnumcopies\@empty
11408   \else
11409     /NumCopies \@pdfnumcopies
11410   \fi
11411 }%
11412 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11413 \pdfmark{%
11414   pdfmark=/PUT,%
11415   Raw={%
11416     \string{Catalog\string}<<%
11417     \ifx\Hy@temp\@empty
11418     \else
11419       /ViewerPreferences<<\Hy@temp>>%
11420     \fi
11421     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11422     \ifx\@pdflang\@empty
11423     \else
11424       /Lang(\@pdflang)%
11425     \fi
11426     \ifx\@baseurl\@empty
11427     \else
11428       /URI<</Base(\Hy@pstringB)>>%
11429     \fi
11430     >>%
11431   }%
11432 }%
11433 }
11434 \pdfmark>
11435 \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.

```

11436 \newif\ifHy@pdfmarkerror
11437 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
11438 \def\pdfmark@[#1]#2{%
11439   \Hy@pdfmarkerrorfalse
11440   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11441   \@processme
11442   \let\pdf@type\relax
11443   \kvsetkeys{PDF}{#2}%
11444   \ifHy@pdfmarkerror
11445   \else
11446     \ifx\pdf@type\relax
11447       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11448       \ifx\\#1\\%
11449       \else
11450         \pdf@rect{#1}%
11451       \fi
11452     \else
11453       \ifx\\#1\\%
11454         \literalps@out{%
11455           [\the\pdf@toks\space\pdf@type\space pdfmark%
11456         ]}%
11457       \else
11458         \ltx@ifundefined{@pdf@linktype color}{%
11459           \Hy@colorlink\@linkcolor
11460         }{%
11461           \expandafter\Hy@colorlink
11462             \csname @pdf@linktype color\endcsname
11463         }%
11464         \pdf@rect{#1}%
11465         \literalps@out{%
11466           [\the\pdf@toks\space\pdf@type\space pdfmark%
11467         ]}%
11468         \Hy@endcolorlink
11469       \fi
11470     \fi
11471   \fi
11472 }

```

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}

```

```

11473 \newsavebox{\pdf@box}
11474 \providecommand*{\Hy@setouterhbox}{\sbox}
11475 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11476 \def\Hy@DEST{/DEST}
11477 \def\pdf@rect#1{%

```

```

11478 \begingroup
11479 \chardef\x=1 %
11480 \def\Hy@temp{#1}%
11481 \ifx\Hy@temp\ltx@empty
11482 \chardef\x=0 %
11483 \else
11484 \def\y{\anchor@spot}%
11485 \ifx\Hy@temp\y
11486 \def\y{\relax}%
11487 \ifx\anchor@spot\y
11488 \chardef\x=0 %
11489 \fi
11490 \fi
11491 \fi
11492 \expandafter\endgroup
11493 \ifcase\x
11494 \literalps@out{H.S}%
11495 \literalps@out{H.R}%
11496 \else
11497 \leavevmode
11498 \Hy@SaveSpaceFactor
11499 \ifmmode
11500 \def\Hy@LinkMath{$}%
11501 \else
11502 \let\Hy@LinkMath\ltx@empty
11503 \fi
11504 \ifHy@breaklinks
11505 \Hy@setouterhbox\pdf@box{%
11506 \Hy@RestoreSpaceFactor
11507 \Hy@LinkMath
11508 \Hy@AllowHyphens#1\Hy@xspace@end
11509 \Hy@LinkMath
11510 \Hy@SaveSpaceFactor
11511 }%
11512 \else
11513 \sbox\pdf@box{%
11514 \Hy@RestoreSpaceFactor
11515 \Hy@LinkMath
11516 #1\Hy@xspace@end
11517 \Hy@LinkMath
11518 \Hy@SaveSpaceFactor
11519 }%
11520 \fi
11521 \dimen@ \ht\pdf@box
11522 \ifdim\dp\pdf@box=\z@
11523 \literalps@out{H.S}%
11524 \else
11525 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11526 \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...).

```

11527 \ifHy@breaklinks
11528 \ifhmode
11529 \Hy@breaklinksunhbox\pdf@box
11530 \else
11531 \box\pdf@box
11532 \fi

```

```

11533 \else
11534 \expandafter\box\pdf@box
11535 \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

11536 \ifdim\dimen@=\z@
11537 \literalps@out{H.R}%
11538 \else
11539 \raise\dimen@\hbox{\literalps@out{H.R}}%
11540 \fi
11541 \Hy@RestoreSpaceFactor
11542 \fi
11543 \ifx\pdf@type\Hy@DEST
11544 \else
11545 \pdf@addtoksx{H.B}%
11546 \fi
11547 }

```

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.

```

11548 \newtoks\pdf@toks
11549 \newtoks\pdf@defaulttoks
11550 \pdf@defaulttoks={}%
11551 \def\pdf@addtoks#1#2{%
11552 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11553 \@processme
11554 }
11555 \def\pdf@addtoksx#1{%
11556 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11557 \@processme
11558 }
11559 \def\PDFdefaults#1{%
11560 \pdf@defaulttoks={#1}%
11561 }

```

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

```

11562 % what is the type of pdfmark?
11563 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11564 % what is the link type?
11565 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11566 \def\pdf@linktype{link}
11567 % parameter is a stream of PDF
11568 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11569 % parameter is a name
11570 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11571 % parameter is a array
11572 \define@key{PDF}{Border}{}%
11573 \edef\Hy@temp{#1}%
11574 \ifx\Hy@temp\@empty
11575 \else
11576 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11577 \fi
11578 }

```

```

11579 \let\Hy@BorderArrayPatch\@empty
11580 % parameter is a dictionary
11581 \define@key{PDF}{BorderStyle}{%
11582   \edef\Hy@temp{#1}%
11583   \ifx\Hy@temp\@empty
11584     \else
11585       \pdf@addtoks{<<#1>>}{BS}%
11586     \fi
11587 }
11588 % parameter is a array
11589 \define@key{PDF}{Color}{%
11590   \ifx\relax#1\relax
11591     \else
11592       \pdf@addtoks{[#1]}{Color}% hash-ok
11593     \fi
11594 }
11595 % parameter is a string
11596 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11597 % parameter is a integer
11598 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11599 % parameter is a array
11600 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11601 % parameter is a string
11602 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11603 % parameter is a string or file
11604 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11605 % parameter is a destination
11606 \define@key{PDF}{Dest}{%
11607   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11608   \ifx\Hy@pstringDest\@empty
11609     \Hy@pdfmarkerrortrue
11610     \Hy@Warning{Destination with empty name ignored}%
11611   \else
11612     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11613   \fi
11614 }
11615 \define@key{PDF}{DestAnchor}{%
11616   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11617   \ifx\Hy@pstringDest\@empty
11618     \Hy@pdfmarkerrortrue
11619     \Hy@Warning{Destination with empty name ignored}%
11620   \else
11621     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11622   \fi
11623 }
11624 % parameter is a string
11625 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11626 % parameter is a string
11627 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11628 % parameter is a int
11629 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11630 \define@key{PDF}{PDFAFlags}{%
11631   \ifHy@pdfa
11632     \pdf@addtoks{#1}{F}%
11633   \fi
11634 }
11635 % parameter is a name

```

```

11636 \define@key{PDF}{AcroHighlight}{%
11637   \begingroup
11638     \edef\x{#1}%
11639     \expandafter\endgroup\ifx\x\@empty
11640     \else
11641       \pdf@addtoks{#1}{H}%
11642     \fi
11643 }
11644 % parameter is a string
11645 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11646 % parameter is a string
11647 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11648 % parameter is a string
11649 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11650 % parameter is a string
11651 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11652 % parameter is a Boolean
11653 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11654 % parameter is a integer or name
11655 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11656 % parameter is a name
11657 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11658 % parameter is a string
11659 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11660 % parameter is a array
11661 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11662 % parameter is a integer
11663 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11664 % parameter is a name
11665 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11666 % parameter is a string
11667 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11668 % parameter is a string
11669 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11670 % parameter is a string
11671 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11672 % parameter is an array
11673 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11674 % parameter is a string
11675 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11676 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11677 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11678 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11679 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11680 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11681 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11682 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11683 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11684 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11685 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
11686 \define@key{PDF}{Trapped}{%
11687   \edef\Hy@temp{#1}%
11688   \ifx\Hy@temp\@empty
11689   \else
11690     \pdf@addtoks{/#1}{Trapped}%
11691   \fi

```

```

11692 }
11693
11694 </pdfmarkbase>
11695 <*pdfmark>
11696 \def\Acrobatmenu#1#2{%
11697   \EdefEscapeName\Hy@temp@menu{#1}%
11698   \Hy@Acrobatmenu{#1}{#2}{%
11699     \pdfmark[{#2}]{%
11700       linktype=menu,%
11701       pdfmark=/ANN,%
11702       AcroHighlight=\@pdfhighlight,%
11703       Border=\@pdfborder,%
11704       BorderStyle=\@pdfborderstyle,%
11705       Color=\@menubordercolor,%
11706       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11707       Subtype=/Link,%
11708       PDFAFlags=4%
11709     }%
11710   }%
11711 }

```

And now for some useful examples:

```

11712 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
11713 \def\PDFNextPage@[#1]#2{%
11714   \pdfmark[{#2}]{%
11715     #1,%
11716     Border=\@pdfborder,%
11717     BorderStyle=\@pdfborderstyle,%
11718     Color=.2 .1 .5,%
11719     pdfmark=/ANN,%
11720     Subtype=/Link,%
11721     PDFAFlags=4,%
11722     Page=/Next%
11723   }%
11724 }
11725 \def\PDFPreviousPage{%
11726   \@ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11727 }
11728 \def\PDFPreviousPage@[#1]#2{%
11729   \pdfmark[{#2}]{%
11730     #1,%
11731     Border=\@pdfborder,%
11732     BorderStyle=\@pdfborderstyle,%
11733     Color=.4 .4 .1,%
11734     pdfmark=/ANN,%
11735     Subtype=/Link,%
11736     PDFAFlags=4,%
11737     Page=/Prev%
11738   }%
11739 }
11740 \def\PDFOpen#1{%
11741   \pdfmark{#1,pdfmark=/DOCVIEW}%
11742 }

```

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

```

11743 \def\hyper@linkurl#1#2{%
11744   \begingroup
11745     \Hy@pstringdef\Hy@pstringURI{#2}%

```

```

11746 \hyper@chars
11747 \leavevmode
11748 \pdfmark[{#1}]{%
11749 pdfmark=/ANN,%
11750 linktype=url,%
11751 AcroHighlight=\@pdfhighlight,%
11752 Border=\@pdfborder,%
11753 BorderStyle=\@pdfborderstyle,%
11754 Color=\@urlbordercolor,%
11755 Action={<<%
11756 /Subtype/URI%
11757 /URI(\Hy@pstringURI)%
11758 \ifHy@href@ismap
11759 /IsMap true%
11760 \fi
11761 >>},%
11762 Subtype=/Link,%
11763 PDFAFlags=4%
11764 }%
11765 \endgroup
11766 }
11767 \def\hyper@linkfile#1#2#3{%
11768 \begingroup
11769 \def\Hy@pstringF{#2}%
11770 \Hy@CleanupFile\Hy@pstringF
11771 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11772 \Hy@pstringdef\Hy@pstringD{#3}%
11773 \Hy@MakeRemoteAction
11774 \leavevmode
11775 \pdfmark[{#1}]{%
11776 pdfmark=/ANN,%
11777 Subtype=/Link,%
11778 PDFAFlags=4,%
11779 AcroHighlight=\@pdfhighlight,%
11780 Border=\@pdfborder,%
11781 BorderStyle=\@pdfborderstyle,%
11782 linktype=file,%
11783 Color=\@filebordercolor,%
11784 Action={%
11785 <<%
11786 /S/GoToR%
11787 \Hy@SetNewWindow
11788 /F(\Hy@pstringF)%
11789 /D%
11790 \ifx\#3\%
11791 [\Hy@href@page\@pdfremotestartview]%
11792 \else
11793 (\Hy@pstringD)cvn%
11794 \fi
11795 \Hy@href@nextactionraw
11796 >>%
11797 }%
11798 }%
11799 \endgroup
11800 }
11801 \def\@hyper@launch run:#1\#2#3{%
11802 \begingroup

```



```

11803 \Hy@pstringdef\Hy@pstringF{#1}%
11804 \Hy@pstringdef\Hy@pstringP{#3}%
11805 \leavevmode
11806 \pdfmark[{#2}]{%
11807   pdfmark=/ANN,%
11808   Subtype=/Link,%
11809   PDFAFlags=4,%
11810   AcroHighlight=\@pdfhighlight,%
11811   Border=\@pdfborder,%
11812   BorderStyle=\@pdfborderstyle,%
11813   linktype=run,%
11814   Color=\@runbordercolor,%
11815   Action={%
11816     <<%
11817     /S/Launch%
11818     \Hy@SetNewWindow
11819     /F(\Hy@pstringF)%
11820     \ifx\#3\%
11821     \else
11822     /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11823     \fi
11824     \Hy@href@nextactionraw
11825     >>%
11826   }%
11827 }%
11828 \endgroup
11829 }
11830 </pdfmark>

```

Unfortunately, some parts of the pdfmark PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

## 46.9 Rokicki's dvips

dvips thinks in 10ths of a big point, its coordinate space is resolution dependent, and its *y* axis starts at the top of the page. Other drivers can and will be different!

The work is done in SDict, because we add in some header definitions in a moment.

```

11831 (*dvips)
11832 \providecommand*\XR@ext}{pdf}
11833 \let\Hy@raisedlink\ltx@empty
11834 \def\litalps@out#1{\special{ps:SDict begin #1 end}}%
11835 \def\headerps@out#1{\special{! #1}}%
11836 \input{pdfmark.def}%
11837 \ifx\@pdfproducer\relax
11838 \def\@pdfproducer{dvips + Distiller}%
11839 \fi
11840 \providecommand*\@pdfborder{0 0 1}
11841 \providecommand*\@pdfborderstyle{}
11842 \providecommand*\@pdfview{XYZ}
11843 \providecommand*\@pdfviewparams{ H.V}
11844 \def\Hy@BorderArrayPatch{BorderArrayPatch}
11845 \g@addto@macro\Hy@FirstPageHook{%
11846 \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.

```

11847 /DvipsToPDF{72.27 mul Resolution div} def%
11848 /PDFToDvips{72.27 div Resolution mul} def%
11849 /BPToDvips{72 div Resolution mul}def%

```

The values inside the /Boder array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```

11850 /BorderArrayPatch{%
11851   [exch{%
11852     dup dup type/integertype eq exch type/realtype eq or%
11853     {BPToDvips}if%
11854   }forall]%
11855 }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.

```

11856 /HyperBorder {1 PDFToDvips} def%
11857 /H.V {pdf@hoff pdf@voff null} def%
11858 /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

```

11859 /H.S {%
11860   currentpoint %
11861   HyperBorder add /pdf@lly exch def %
11862   dup DvipsToPDF 72 add /pdf@hoff exch def %
11863   HyperBorder sub /pdf@llx exch def%
11864 } def%

```

The calculation of upper left  $y$  is done without raising the point in  $\text{\TeX}$ , by simply adding on the current `\baselineskip` to the current  $y$ . This is usually too much, so we remove a notional 2 points.

We have to see what the current baselineskip is, and convert it to the dvips coordinate system.

Argument: baselineskip in pt. The  $x$  and  $y$  coordinates of the current point, minus the baselineskip

```

11865 /H.L {%
11866   2 sub dup%
11867   /HyperBasePt exch def %
11868   PDFToDvips /HyperBaseDvips exch def %
11869   currentpoint %
11870   HyperBaseDvips sub /pdf@ury exch def%
11871   /pdf@urx exch def%
11872 } def%
11873 /H.A {%
11874   H.L %
11875 % |pdf@voff| = the distance from the top of the page to a point
11876 % |\baselineskip| above the current point in PDF coordinates

```

```

11877     currentpoint exch pop %
11878     vsize 72 sub exch DvipsToPDF %
11879     HyperBasePt sub % baseline skip
11880     sub /pdf@voff exch def%
11881   } def%
11882   /H.R {%
11883     currentpoint %
11884     HyperBorder sub /pdf@ury exch def %
11885     HyperBorder add /pdf@urx exch def %
11886   % | /pdf@voff| = the distance from the top of the page to the current point, in
11887   % PDF coordinates
11888     currentpoint exch pop vsize 72 sub %
11889     exch DvipsToPDF sub /pdf@voff exch def%
11890   } def%
11891 }%
11892 }
11893 \AtBeginShipoutFirst{%
11894   \ifHy@setpagesize
11895     \begingroup
11896       \@ifundefined{stockwidth}{-%
11897         \ifdim\paperwidth>\z@
11898           \ifdim\paperheight>\z@
11899             \special{papersize=\the\paperwidth,\the\paperheight}%
11900           \fi
11901         \fi
11902       }{%
11903         \ifdim\stockwidth>\z@
11904           \ifdim\stockheight>\z@
11905             \special{papersize=\the\stockwidth,\the\stockheight}%
11906           \fi
11907         \fi
11908       }%
11909     \endgroup
11910   \fi
11911   \Hy@DisableOption{setpagesize}%
11912 }
11913 </dvips>

```

## 46.10 VTeX's vtexpdfmark driver

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

The origin seems to be the same as TeX's origin, 1 in from the left and 1 in downwards from the top. The direction of the  $y$  axis is downwards, the opposite of the dvips case. Units seems to be pt or bp.

```

11914 (*vtexpdfmark)
11915 \providecommand*{\XR@ext}{pdf}
11916 \let\Hy@raisedlink\ltx@empty
11917 \def\literalps@out#1{\special{pS:#1}}%
11918 \def\headerps@out#1{\immediate\special{pS:#1}}%
11919 \input{pdfmark.def}%
11920 \ifx\@pdfproducer\relax
11921   \ifnum\OpMode=\@ne
11922     \def\@pdfproducer{VTeX}%
11923   \else
11924     \def\@pdfproducer{VTeX + Distiller}%
11925   \fi
11926 \fi

```

```

11927 \providecommand*\@pdfborder{0 0 1}
11928 \providecommand*\@pdfborderstyle{}
11929 \providecommand*\@pdfview{XYZ}
11930 \providecommand*\@pdfviewparams{ H.V}

```

```

11931 \g@addto@macro\Hy@FirstPageHook{%
11932   \headerps@out{%
11933     /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.

```

11934   /HyperBorder {1} def%
11935   /H.V {pdf@hoff pdf@voff null} def%
11936   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11937   /H.S {%
11938     currentpoint %
11939     HyperBorder sub%
11940     /pdf@lly exch def %
11941     dup 72 add /pdf@hoff exch def %
11942     HyperBorder sub%
11943     /pdf@llx exch def%
11944   } def%

```

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

```

11945   /H.L {%
11946     2 sub%
11947     /HyperBasePt exch def %
11948     currentpoint %
11949     HyperBasePt add HyperBorder add%
11950     /pdf@ury exch def %
11951     HyperBorder add%
11952     /pdf@urx exch def%
11953   } def%
11954   /H.A {%
11955     H.L %
11956     currentpoint exch pop %
11957     vsize 72 sub exch %
11958     HyperBasePt add add%
11959     /pdf@voff exch def%
11960   } def%

```

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

```

11961   /H.R {%
11962     currentpoint %
11963     HyperBorder add%
11964     /pdf@ury exch def %
11965     HyperBorder add%
11966     /pdf@urx exch def %
11967     currentpoint exch pop vsize 72 sub add%
11968     /pdf@voff exch def%
11969   } def%
11970 }%
11971 }
11972 </vtxpdfmark>

```

## 46.11 Textures

```
11973 \<{*textures}
11974 \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.

```
11975 \begingroup
11976 \obeylines %
11977 \gdef\Hy@ps@CR{\noexpand
11978 }%
11979 \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`.

```
11980 \def\literalps@out#1{%
11981 \special{postscript 0 0 transform}%
11982 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11983 }%
11984 %
```

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.

```
11985 \def\headerps@out#1{%
11986 \special{%
11987 prepostscript TeXdict begin\Hy@ps@CR
11988 #1\Hy@ps@CR
11989 end%
11990 }%
11991 }%
11992 %
```

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.

```
11993 \g@addto@macro\Hy@FirstPageHook{%
11994 \headerps@out{%
11995 /betterpdfmark {%
11996 systemdict begin %
11997 dup /BP eq%
11998 {cleartomark gsave nulldevice []%
```

```

11999      {dup /EP eq%
12000      {cleartomark cleartomark grestore}%
12001      {cleartomark}%
12002      ifelse%
12003      }ifelse %
12004      end%
12005      }def\Hy@ps@CR
12006      ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
12007      }% end of \headerps@out
12008      }% end of \AtBeginShipoutFirst
12009      %
12010      \input{pdfmark.def}%
12011      %
12012      \ifx\@pdfproducer\relax
12013      \def\@pdfproducer{Textures + Distiller}%
12014      \fi
12015      \providecommand*\@pdfborder{0 0 1}
12016      \providecommand*\@pdfborderstyle{}
12017      \providecommand*\@pdfview{XYZ}
12018      \providecommand*\@pdfviewparams{ H.V}
12019      %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx pdf@lly pdf@urx pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff pdf@voff` which are the PDF page offsets. The Rect pair are called at the LL and UR corners of a box known to T<sub>E</sub>X.

```

12020 \Hy@AtBeginDocument{%
12021 \headerps@out{%

```

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

```

12022 /vsize {\Hy@pageheight} def%
12023 /DvipsToPDF {} def%
12024 /PDFToDvips {} def%
12025 /BPTToDvips {} def%
12026 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
12027 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
12028 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
12029 /H.S {%
12030     currentpoint %
12031     HyperBorder add /pdf@lly exch def %
12032     dup DvipsToPDF 72 add /pdf@hoff exch def %
12033     HyperBorder sub /pdf@llx exch def%
12034     } def\Hy@ps@CR
12035 /H.L {%
12036     2 sub %
12037     PDFToDvips /HyperBase exch def %
12038     currentpoint %
12039     HyperBase sub /pdf@ury exch def%
12040     /pdf@urx exch def%
12041     } def\Hy@ps@CR
12042 /H.A {%
12043     H.L %
12044     currentpoint exch pop %
12045     vsize 72 sub exch DvipsToPDF %
12046     HyperBase sub % baseline skip
12047     sub /pdf@voff exch def%

```

```

12048 } def\Hy@ps@CR
12049 /H.R {%
12050   currentpoint %
12051   HyperBorder sub /pdf@ury exch def %
12052   HyperBorder add /pdf@urx exch def %
12053   currentpoint exch pop vsize 72 sub %
12054   exch DvipsToPDF sub /pdf@voff exch def%
12055 } def\Hy@ps@CR
12056 }%
12057 }

12058 \Hy@AtBeginDocument{%
12059   \ifHy@colorlinks
12060     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
12061   \fi
12062 }

```

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.

```

12063 \expandafter\let\expandafter\keepPDF@SetupDoc
12064   \csname PDF@SetupDoc\endcsname
12065 \def\PDF@SetupDoc{%
12066   \ifx\@baseurl\@empty
12067     \else
12068       \special{html:<base href="\@baseurl">}%
12069     \fi
12070   \keepPDF@SetupDoc
12071 }

12072 \Hy@WrapperDef\hyper@anchor#1{%
12073   \Hy@SaveLastskip
12074   \Hy@VerboseAnchor{#1}%
12075   \begingroup
12076     \let\protect=\string
12077     \special{html:<a name=%
12078       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12079   \endgroup
12080   \Hy@activeanchortrue
12081   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12082   \special{html:</a>}%
12083   \Hy@activeanchorfalse
12084   \Hy@RestoreLastskip
12085 }

12086 \Hy@WrapperDef\hyper@anchorstart#1{%
12087   \Hy@SaveLastskip
12088   \Hy@VerboseAnchor{#1}%
12089   \begingroup
12090     \hyper@chars
12091     \special{html:<a name=%
12092       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12093   \endgroup
12094   \Hy@activeanchortrue
12095 }

12096 \def\hyper@anchorend{%
12097   \special{html:</a>}%
12098   \Hy@activeanchorfalse
12099   \Hy@RestoreLastskip
12100 }

```

```

12101 \def\@urltype{url}
12102 \def\hyper@linkstart#1#2{%
12103   \Hy@VerboseLinkStart{#1}{#2}%
12104   \expandafter\Hy@colorlink\csname @#1color\endcsname
12105   \def\Hy@tempa{#1}%
12106   \ifx\Hy@tempa\@urltype
12107     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12108   \else
12109     \begingroup
12110       \hyper@chars
12111       \special{%
12112         html:<a href=%
12113         \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>%
12114       }%
12115     \endgroup
12116   \fi
12117 }
12118 \def\hyper@linkend{%
12119   \special{html:</a>}%
12120   \Hy@endcolorlink
12121 }
12122 \def\hyper@linkfile#1#2#3{%
12123   \hyper@linkurl{#1}{%
12124     \Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi
12125   }%
12126 }
12127 \def\hyper@linkurl#1#2{%
12128   \leavevmode
12129   \ifHy@raiselinks
12130     \Hy@SaveSpaceFactor
12131     \Hy@SaveSavedSpaceFactor
12132     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12133     \Hy@RestoreSavedSpaceFactor
12134     \@linkdim\dp\@tempboxa
12135     \lower\@linkdim\hbox{%
12136       \hyper@chars
12137       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12138     }%
12139     \Hy@colorlink\@urlcolor
12140     \Hy@RestoreSpaceFactor
12141     #1\Hy@xspace@end
12142     \Hy@SaveSpaceFactor
12143     \@linkdim\ht\@tempboxa
12144     \advance\@linkdim by -6.5\p@
12145     \raise\@linkdim\hbox{\special{html:</a>}}%
12146     \Hy@endcolorlink
12147     \Hy@RestoreSpaceFactor
12148   \else
12149     \begingroup
12150       \hyper@chars
12151       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12152       \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12153       \special{html:</a>}%
12154       \Hy@endcolorlink
12155     \endgroup
12156   \fi
12157 }

```



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

```
12158 \def\hyper@link#1#2#3{%
12159   \Hy@VerboseLinkStart{#1}{#2}%
12160   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
12161 }
12162 \def\hyper@image#1#2{%
12163   \begingroup
12164     \hyper@chars
12165     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
12166   \endgroup
12167 }
12168 </textures>
```

## 46.12 dvipsone

```
12169 % \subsection{dvipsone driver}
12170 % Over-ride the default setup macro in pdftmark driver to use Y\&Y
12171 % | \special| commands.
12172 (*dvipsone)
12173 \providecommand*\XR@ext}{pdf}
12174 \let\Hy@raisedlink\ltx@empty
12175 \providecommand*\@pdfborder{0 0 1}
12176 \providecommand*\@pdfborderstyle{}
12177 \def\literalps@out#1{\special{ps:#1}}%
12178 \def\headerps@out#1{\special{headertext=#1}}%
12179 \input{pdfmark.def}%
12180 \ifx\@pdfproducer\relax
12181   \def\@pdfproducer{dvipsone + Distiller}%
12182 \fi
12183 \HyInfo@AddonUnsupportedtrue
12184 \def\PDF@FinishDoc{%
12185   \Hy@UseMaketitleInfos
12186   \HyInfo@TrappedUnsupported
12187   \special{PDF: Keywords \@pdfkeywords}%
12188   \special{PDF: Title \@pdftitle}%
12189   \special{PDF: Creator \@pdfcreator}%
12190   \ifx\@pdfcreationdate\@empty
12191     \else
12192       \special{PDF: CreationDate \@pdfcreationdate}%
12193   \fi
12194   \ifx\@pdfmoddate\@empty
12195     \else
12196       \special{PDF: ModDate \@pdfmoddate}%
12197   \fi
12198   \special{PDF: Author \@pdfauthor}%
12199   \ifx\@pdfproducer\relax
12200     \else
12201       \special{PDF: Producer \@pdfproducer}%
12202   \fi
12203   \special{PDF: Subject \@pdfsubject}%
12204   \Hy@DisableOption{pdfauthor}%
12205   \Hy@DisableOption{pdftitle}%
12206   \Hy@DisableOption{pdfsubject}%
12207   \Hy@DisableOption{pdfcreator}%
12208   \Hy@DisableOption{pdfcreationdate}%
12209   \Hy@DisableOption{pdfmoddate}%
12210   \Hy@DisableOption{pdfproducer}%

```

```

12211 \Hy@DisableOption{pdfkeywords}%
12212 \Hy@DisableOption{pdftrapped}%
12213 \Hy@DisableOption{pdfinfo}%
12214 }
12215 \def\PDF@SetupDoc{%
12216 \def\Hy@temp{}%
12217 \ifx\@pdfstartpage\@empty
12218 \else
12219 \ifx\@pdfstartview\@empty
12220 \else
12221 \edef\Hy@temp{%
12222 ,Page=\@pdfstartpage
12223 ,View=\@pdfstartview
12224 }%
12225 \fi
12226 \fi
12227 \edef\Hy@temp{%
12228 \noexpand\pdfmark{%
12229 pdfmark=/DOCVIEW,%
12230 PageMode=/\@pdfpagemode
12231 \Hy@temp
12232 }%
12233 }%
12234 \Hy@temp
12235 \ifx\@pdfpagescrop\@empty
12236 \else
12237 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12238 \fi
12239 \edef\Hy@temp{%
12240 \ifHy@pdftoolbar\else /HideToolbar true\fi
12241 \ifHy@pdfmenubar\else /HideMenubar true\fi
12242 \ifHy@pdfwindowui\else /HideWindowUI true\fi
12243 \ifHy@pdfwindow /FitWindow true\fi
12244 \ifHy@pdfcenterwindow /CenterWindow true\fi
12245 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12246 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12247 \Hy@UseNameKey{Direction}\@pdfdirection
12248 \Hy@UseNameKey{ViewArea}\@pdfviewarea
12249 \Hy@UseNameKey{ViewClip}\@pdfviewclip
12250 \Hy@UseNameKey{PrintArea}\@pdfprintarea
12251 \Hy@UseNameKey{PrintClip}\@pdfprintclip
12252 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12253 \Hy@UseNameKey{Duplex}\@pdfduplex
12254 \ifx\@pdfpicktraybypdfsize\@empty
12255 \else
12256 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12257 \fi
12258 \ifx\@pdfprintpagerange\@empty
12259 \else
12260 /PrintPageRange[\@pdfprintpagerange]%
12261 \fi
12262 \ifx\@pdfnumcopies\@empty
12263 \else
12264 /NumCopies \@pdfnumcopies
12265 \fi
12266 }%
12267 \Hy@pstringdef\Hy@pstringB{\@baseurl}%

```

```

12268 \pdfmark{%
12269   pdfmark=/PUT,%
12270   Raw={%
12271     \string{Catalog\string}<<%
12272     \ifx\Hy@temp\@empty
12273     \else
12274       /ViewerPreferences<<\Hy@temp>>%
12275     \fi
12276     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12277     \ifx\@pdflang\@empty
12278     \else
12279       /Lang(\@pdflang)%
12280     \fi
12281     \ifx\@baseurl\@empty
12282     \else
12283       /URI<</Base(\Hy@pstringB)>>%
12284     \fi
12285   >>%
12286 }%
12287 }%
12288 }
12289 \providecommand*\@pdfview{XYZ}
12290 \providecommand*\@pdfviewparams{ %
12291   gsave revscl currentpoint grestore %
12292   72 add exch pop null exch null%
12293 }
12294 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx pdf@lly pdf@urx pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff pdf@voff` which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to  $\TeX$ .

```

12295 \g@addto@macro\Hy@FirstPageHook{%
12296   \headerps@out{%

```

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

```

12297   /DvipsToPDF { 65781 div } def%
12298   /PDFToDvips { 65781 mul } def%
12299   /BPToDvips{65781 mul}def%
12300   /HyperBorder { 1 PDFToDvips } def%
12301   /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.

```

12302   /BorderArrayPatch{%
12303     [exch{%
12304       dup dup type/integertype eq exch type/realtype eq or%
12305       {BPToDvips}if%
12306     }forall]%
12307   }def%
12308   /H.S {%
12309     currentpoint %
12310     HyperBorder add /pdf@lly exch def %
12311     dup DvipsToPDF 72 add /pdf@hoff exch def %
12312     HyperBorder sub /pdf@llx exch def%
12313   } def%
12314   /H.L {%

```

```

12315      2 sub %
12316      PDFToDvips /HyperBase exch def %
12317      currentpoint %
12318      HyperBase sub /pdf@ury exch def%
12319      /pdf@urx exch def%
12320    } def%
12321    /H.A {%
12322      H.L %
12323      currentpoint exch pop %
12324      HyperBase sub % baseline skip
12325      DvipsToPDF /pdf@voff exch def%
12326    } def%
12327    /H.R {%
12328      currentpoint %
12329      HyperBorder sub /pdf@ury exch def %
12330      HyperBorder add /pdf@urx exch def %
12331      currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12332    } def%
12333  }%
12334 }
12335 </dvipsone>

```

## 46.13 TeX4ht

```

12336 (*tex4ht)
12337 \providecommand*\XR@ext>{html}
12338 \let\Hy@raisedlink\ltx@empty
12339 \@ifpackageloaded{tex4ht}{%
12340   \Hy@InfoNoLine{tex4ht is already loaded}%
12341 }{%
12342   \RequirePackage[hx4ht]{tex4ht}%
12343 }
12344 \hyperlinkfileprefix{}
12345 \let\PDF@FinishDoc\ltx@empty
12346 \def\PDF@SetupDoc{%
12347   \ifx\@baseurl\@empty
12348     \else
12349     \special{t4ht=<base href="\@baseurl">}%
12350   \fi
12351 }
12352 \Hy@WrapperDef\hyper@anchor#1{%
12353   \Hy@SaveLastskip
12354   \Hy@VerboseAnchor{#1}%
12355   \begingroup
12356     \let\protect=\string
12357     \special{t4ht=<a name=%
12358       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12359   \endgroup
12360   \Hy@activeanchortrue
12361   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12362   \special{t4ht=</a>}%
12363   \Hy@activeanchorfalse
12364   \Hy@RestoreLastskip
12365 }
12366 \Hy@WrapperDef\hyper@anchorstart#1{%
12367   \Hy@SaveLastskip
12368   \Hy@VerboseAnchor{#1}%
12369   \begingroup

```

```

12370 \hyper@chars\special{t4ht=<a name=%
12371 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12372 \endgroup
12373 \Hy@activeanchortrue
12374 }
12375 \def\hyper@anchorend{%
12376 \special{t4ht=</a>}%
12377 \Hy@activeanchorfalse
12378 \Hy@RestoreLastskip
12379 }
12380 \def\@urltype{url}
12381 \def\hyper@linkstart#1#2{%
12382 \Hy@VerboseLinkStart{#1}{#2}%
12383 \expandafter\Hy@colorlink\csname @#1color\endcsname
12384 \def\Hy@tempa{#1}%
12385 \ifx\Hy@tempa\@urltype
12386 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12387 \else
12388 \begingroup
12389 \hyper@chars
12390 \special{t4ht=<a href=%
12391 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12392 \endgroup
12393 \fi
12394 }
12395 \def\hyper@linkend{%
12396 \special{t4ht=</a>}%
12397 \Hy@endcolorlink
12398 }
12399 \def\hyper@linkfile#1#2#3{%
12400 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12401 }
12402 \def\hyper@linkurl#1#2{%
12403 \leavevmode
12404 \ifHy@raiselinks
12405 \Hy@SaveSpaceFactor
12406 \Hy@SaveSavedSpaceFactor
12407 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12408 \Hy@RestoreSavedSpaceFactor
12409 \@linkdim\dp\@tempboxa
12410 \lower\@linkdim\hbox{%
12411 \begingroup
12412 \hyper@chars
12413 \special{%
12414 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12415 }%
12416 \endgroup
12417 }%
12418 \Hy@colorlink\@urlcolor
12419 \Hy@RestoreSpaceFactor
12420 #1\Hy@xspace@end
12421 \Hy@SaveSpaceFactor
12422 \Hy@endcolorlink
12423 \@linkdim\ht\@tempboxa
12424 \advance\@linkdim by -6.5\p@
12425 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12426 \Hy@RestoreSpaceFactor

```

```

12427 \else
12428 \begingroup
12429 \hyper@chars
12430 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12431 \Hy@colorlink\@urlcolor
12432 #1\Hy@xspace@end
12433 \Hy@endcolorlink
12434 \special{t4ht=</a>}%
12435 \endgroup
12436 \fi
12437 }

```

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

```

12438 \def\hyper@link#1#2#3{%
12439 \Hy@VerboseLinkStart{#1}{#2}%
12440 \hyper@linkurl{#3}{\# \Hy@HyperDestNameFilter{#2}}%
12441 }
12442 \def\hyper@image#1#2{%
12443 \begingroup
12444 \hyper@chars
12445 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12446 \endgroup
12447 }
12448 \let\autoref\ref
12449 \ifx \rEfLiNK \UnDef
12450 \def\rEfLiNK #1#2{#2}%
12451 \fi
12452 \let\backref\ltx@gobble

```

Fix for tex4ht.

```

12453 \AtBeginDocument{%
12454 \expandafter
12455 \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12456 \expandafter\def\csname Make:Label\endcsname#1#2{%
12457 \ifhmode
12458 \Hy@SaveSpaceFactor
12459 \else
12460 \global\Hy@SavedSpaceFactor=1000 %
12461 \fi
12462 \Hy@OrgMakeLabel{#1}{%
12463 \Hy@RestoreSpaceFactor
12464 #2\Hy@xspace@end%
12465 \Hy@SaveSpaceFactor
12466 }%
12467 \Hy@RestoreSpaceFactor
12468 }%
12469 }
12470 </tex4ht>
12471 <*tex4htcfg>
12472 \IfFileExists{\jobname.cfg}{\endinput}{}
12473 \Preamble{html}
12474 \begin{document}%
12475 \EndPreamble
12476 \def\TeX{TeX}
12477 \def\OMEGA{\Omega}
12478 \def\LaTeX{LaTeX}
12479 \def\LaTeXe{\LaTeX2e}
12480 \def\eTeX{e-TeX}
12481 \def\MF{Metafont}

```

```

12482 \def\MP{MetaPost}
12483 \</tex4htcfig>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

12484 \<*pdfmark>
12485 \long\def\@Form[#1]{%
12486 \g@addto@macro\Hy@FirstPageHook{%
12487 \headerps@out{%
12488 [%
12489 /_objdef{pdfDocEncoding}%
12490 /type/dict%
12491 /OBJ pdfmark%
12492 [%
12493 {pdfDocEncoding}%
12494 <<%
12495 /Type/Encoding%
12496 /Differences[%
12497 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12498 /tilde %
12499 39/quotesingle %
12500 96/grave %
12501 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12502 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12503 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12504 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12505 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12506 164/currency %
12507 166/brokenbar %
12508 168/dieresis/copyright/ordfeminine %
12509 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12510 /twosuperior/threesuperior/acute/mu %
12511 183/periodcentered/cedilla/onesuperior/ordmasculine %
12512 188/onequarter/onehalf/threequarters %
12513 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12514 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12515 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12516 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12517 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12518 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12519 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12520 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12521 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
12522 /ucircumflex/udieresis/yacute/thorn/ydieresis%
12523 ]%
12524 >>%
12525 /PUT pdfmark%
12526 [%
12527 /_objdef{ZaDb}%
12528 /type/dict%
12529 /OBJ pdfmark%
12530 [%
12531 {ZaDb}%
12532 <<%
12533 /Type/Font%
12534 /Subtype/Type1%

```

```

12535   /Name/ZaDb%
12536   /BaseFont/ZapfDingbats%
12537   >>%
12538 /PUT pdfmark%
12539 [%
12540   /__objdef{Helv}%
12541   /type/dict%
12542 /OBJ pdfmark%
12543 [%
12544   {Helv}%
12545   <<%
12546   /Type/Font%
12547   /Subtype/Type1%
12548   /Name/Helv%
12549   /BaseFont/Helvetica%
12550   /Encoding{pdfDocEncoding}%
12551   >>%
12552 /PUT pdfmark%
12553 [%
12554   /__objdef{aform}%
12555   /type/dict%
12556 /OBJ pdfmark%
12557 [%
12558   /__objdef{afields}%
12559   /type/array%
12560 /OBJ pdfmark%
12561 {%
12562 [%
12563   /BBox[0 0 100 100]%
12564   /__objdef{Check}%
12565 /BP pdfmark %
12566 1 0 0 setrgbcolor%
12567 /ZapfDingbats 80 selectfont %
12568 20 20 moveto%
12569 (4)show%
12570 [/EP pdfmark%
12571 [%
12572   /BBox[0 0 100 100]%
12573   /__objdef{Cross}%
12574 /BP pdfmark %
12575 1 0 0 setrgbcolor%
12576 /ZapfDingbats 80 selectfont %
12577 20 20 moveto%
12578 (8)show%
12579 [/EP pdfmark%
12580 [%
12581   /BBox[0 0 250 100]%
12582   /__objdef{Submit}%
12583 /BP pdfmark %
12584 0.6 setgray %
12585 0 0 250 100 rectfill %
12586 1 setgray %
12587 2 2 moveto %
12588 2 98 lineto %
12589 248 98 lineto %
12590 246 96 lineto %
12591 4 96 lineto %

```



```

12592 4 4 lineto %
12593 fill %
12594 0.34 setgray %
12595 248 98 moveto %
12596 248 2 lineto %
12597 2 2 lineto %
12598 4 4 lineto %
12599 246 4 lineto %
12600 246 96 lineto %
12601 fill%
12602 /Helvetica 76 selectfont %
12603 0 setgray %
12604 8 22.5 moveto%
12605 (Submit)show%
12606 [/EP pdfmark%
12607 [%
12608 /BBox[0 0 250 100]%
12609 /__objdef{SubmitP}%
12610 /BP pdfmark %
12611 0.6 setgray %
12612 0 0 250 100 rectfill %
12613 0.34 setgray %
12614 2 2 moveto %
12615 2 98 lineto %
12616 248 98 lineto %
12617 246 96 lineto %
12618 4 96 lineto %
12619 4 4 lineto %
12620 fill %
12621 1 setgray %
12622 248 98 moveto %
12623 248 2 lineto %
12624 2 2 lineto %
12625 4 4 lineto %
12626 246 4 lineto %
12627 246 96 lineto %
12628 fill%
12629 /Helvetica 76 selectfont %
12630 0 setgray %
12631 10 20.5 moveto%
12632 (Submit)show%
12633 [/EP pdfmark%
12634 } ?pdfmark%
12635 [%
12636 {aform}%
12637 <<%
12638 /Fields{afields}%
12639 /DR<<%
12640 /Font<<%
12641 /ZaDb{ZaDb}%
12642 /Helv{Helv}%
12643 >>%
12644 >>%
12645 /DA(/Helv 10 Tf 0 g)%
12646 /CO{corder}%
12647 \ifHy@pdfa
12648 \else

```

```

12649 \ifHyField@NeedAppearances
12650 /NeedAppearances true%
12651 \fi
12652 \fi
12653 >>%
12654 /PUT pdfmark%
12655 [%
12656 {Catalog}%
12657 <<%
12658 /AcroForm{aform}%
12659 >>%
12660 /PUT pdfmark%
12661 [%
12662 /_objdef{corder}%
12663 /type/array%
12664 /OBJ pdfmark% dps
12665 }}%
12666 \kvsetkeys{Form}{#1}%
12667 }
12668 \let\@endForm\ltx@empty
12669 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12670 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12671 }
12672 \def\@TextField[#1]#2{% parameters, label
12673 \def\Fld@name{#2}%
12674 \let\Fld@default\ltx@empty
12675 \let\Fld@value\@empty
12676 \def\Fld@width{\DefaultWidthofText}%
12677 \def\Fld@height{%
12678 \ifFld@multiline
12679 \DefaultHeightofTextMultiline
12680 \else
12681 \DefaultHeightofText
12682 \fi
12683 }%
12684 \begingroup
12685 \expandafter\HyField@SetKeys\expandafter{%
12686 \DefaultOptionsofText,#1%
12687 }%
12688 \HyField@FlagsText
12689 \ifFld@hidden\def\Fld@width{1sp}\fi
12690 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12691 \LayoutTextField{#2}{%
12692 \leavevmode
12693 \Hy@escapeform\PDFForm@Text
12694 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
12695 pdfmark=/ANN,Raw={\PDFForm@Text}%
12696 }%
12697 }%
12698 \endgroup
12699 }
12700 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12701 \def\Fld@name{#2}%
12702 \let\Fld@default\relax
12703 \let\Fld@value\relax
12704 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12705 \def\Fld@height{\DefaultHeightofChoiceMenu}%

```

```

12706 \begingroup
12707 \Fld@menulength=0 %
12708 \@tempdima\z@
12709 \@for\@curropt:=#3\do{%
12710 \expandafter\Fld@checkequals\@curropt==\\%
12711 \Hy@StepCount\Fld@menulength
12712 \settowidth{\@tempdimb}{\@currDisplay}%
12713 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12714 }%
12715 \advance\@tempdima by 15\p@
12716 \begingroup
12717 \HyField@SetKeys{#1}%
12718 \edef\x{\endgroup
12719 \noexpand\expandafter
12720 \noexpand\HyField@SetKeys
12721 \noexpand\expandafter{%
12722 \expandafter\noexpand\csname DefaultOptionsof%
12723 \ifFld@radio
12724 Radio%
12725 \else
12726 \ifFld@combo
12727 \ifFld@popdown
12728 PopdownBox%
12729 \else
12730 ComboBox%
12731 \fi
12732 \else
12733 ListBox%
12734 \fi
12735 \fi
12736 \endcsname
12737 }%
12738 }\x
12739 \HyField@SetKeys{#1}%
12740 \ifFld@hidden\def\Fld@width{1sp}\fi
12741 \ifx\Fld@value\relax
12742 \let\Fld@value\Fld@default
12743 \fi
12744 \LayoutChoiceField{#2}{%
12745 \ifFld@radio
12746 \HyField@FlagsRadioButton
12747 \@@Radio{#3}%
12748 \else
12749 \begingroup
12750 \HyField@FlagsChoice
12751 \ifdim\Fld@width<\@tempdima
12752 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12753 \edef\Fld@width{\the\@tempdima}%
12754 \fi
12755 \ifFld@combo
12756 \else
12757 \@tempdima=\the\Fld@menulength\Fld@charsize
12758 \advance\@tempdima by \Fld@borderwidth bp %
12759 \advance\@tempdima by \Fld@borderwidth bp %
12760 \edef\Fld@height{\the\@tempdima}%
12761 \fi
12762 \@@ListBox{#3}%

```

```

12763     \endgroup
12764     \fi
12765   }%
12766 \endgroup
12767 }
12768 \def\@@Radio#1{%
12769   \Fld@listcount=0 %
12770   \EdefEscapeName\Fld@default{\Fld@default}%
12771   \@for\@curropt:=#1\do{%
12772     \expandafter\Fld@checkequals\@curropt==\%
12773     \EdefEscapeName\@currValue{\@currValue}%
12774     \Hy@StepCount\Fld@listcount
12775     \@currDisplay\space
12776     \Hy@escapeform\PDFForm@Radio
12777     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12778       pdfmark=/ANN,%
12779       Raw={%
12780         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12781       }%
12782     } % deliberate space between radio buttons
12783   }%
12784 }
12785 \newcount\Fld@listcount
12786 \def\@@Listbox#1{%
12787   \HyField@PDFChoices{#1}%
12788   \Hy@escapeform\PDFForm@List
12789   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12790     pdfmark=/ANN,Raw={\PDFForm@List}%
12791   }%
12792 }
12793 \def\@PushButton[#1]#2{% parameters, label
12794   \def\Fld@name{#2}%
12795   \begingroup
12796     \expandafter\HyField@SetKeys\expandafter{%
12797       \DefaultOptionsofPushButton,#1%
12798     }%
12799     \ifHy@pdfa
12800       \Hy@Error{%
12801         PDF/A: Push button with JavaScript is prohibited%
12802       }\@ehc
12803       \LayoutPushButtonField{%
12804         \leavevmode
12805         \MakeButtonField{#2}%
12806       }%
12807     \else
12808       \HyField@FlagsPushButton
12809       \iffld@hidden\def\Fld@width{1sp}\fi
12810       \LayoutPushButtonField{%
12811         \leavevmode
12812         \Hy@escapeform\PDFForm@Push
12813         \pdfmark[\MakeButtonField{#2}]{%
12814           pdfmark=/ANN,Raw={\PDFForm@Push}%
12815         }%
12816       }%
12817     \fi
12818   \endgroup
12819 }

```

```

12820 \def\@Submit[#1]#2{%
12821   \def\Fld@width{\DefaultWidthofSubmit}%
12822   \def\Fld@height{\DefaultHeightofSubmit}%
12823   \begingroup
12824     \expandafter\HyField@SetKeys\expandafter{%
12825       \DefaultOptionsofSubmit,#1%
12826     }%
12827     \HyField@FlagsPushButton
12828     \HyField@FlagsSubmit
12829     \ifFld@hidden\def\Fld@width{1sp}\fi
12830     \Hy@escapeform\PDFForm@Submit
12831     \pdfmark[\MakeButtonField{#2}]{%
12832       pdfmark=/ANN,%
12833       Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12834     }%
12835   \endgroup
12836 }
12837 \def\@Reset[#1]#2{%
12838   \def\Fld@width{\DefaultWidthofReset}%
12839   \def\Fld@height{\DefaultHeightofReset}%
12840   \begingroup
12841     \expandafter\HyField@SetKeys\expandafter{%
12842       \DefaultOptionsofReset,#1%
12843     }%
12844     \leavevmode
12845     \ifHy@pdfa
12846       \Hy@Error{%
12847         PDF/A: Reset action is prohibited%
12848       }\@ehc
12849       \MakeButtonField{#2}%
12850     \else
12851       \HyField@FlagsPushButton
12852       \ifFld@hidden\def\Fld@width{1sp}\fi
12853       \Hy@escapeform\PDFForm@Reset
12854       \pdfmark[\MakeButtonField{#2}]{%
12855         pdfmark=/ANN,Raw={\PDFForm@Reset}%
12856       }%
12857     \fi
12858   \endgroup
12859 }%
12860 \def\@CheckBox[#1]#2{% parameters, label
12861   \def\Fld@name{#2}%
12862   \def\Fld@default{0}%
12863   \begingroup
12864     \def\Fld@width{\DefaultWidthofCheckBox}%
12865     \def\Fld@height{\DefaultHeightofCheckBox}%
12866     \expandafter\HyField@SetKeys\expandafter{%
12867       \DefaultOptionsofCheckBox,#1%
12868     }%
12869     \HyField@FlagsCheckBox
12870     \ifFld@hidden\def\Fld@width{1sp}\fi
12871     \LayoutCheckField{#2}{%
12872       \leavevmode
12873       \Hy@escapeform\PDFForm@Check
12874       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
12875         pdfmark=/ANN,Raw={\PDFForm@Check}%
12876       }%

```

```

12877 }%
12878 \endgroup
12879 }
12880 </pdfmark>

```

## 47.2 HyperTeX

```

12881 (*hypertex)
12882 \def\@Form[#1]{%
12883   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12884 }
12885 \let\@endForm\ltx@empty
12886 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12887   \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12888 }
12889 \def\@TextField[#1]#2{% parameters, label
12890   \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12891 }
12892 \def\@CheckBox[#1]#2{% parameters, label
12893   \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12894 }
12895 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12896   \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12897 }
12898 \def\@PushButton[#1]#2{% parameters, label
12899   \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12900 }
12901 \def\@Reset[#1]#2{%
12902   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12903 }
12904 \def\@Submit[#1]#2{%
12905   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12906 }
12907 </hypertex>

```

## 47.3 TeX4ht

```

12908 (*tex4ht)
12909 \def\@Form[#1]{%
12910   \kvsetkeys{Form}{#1}%
12911   \HCode{<form action="\Form@action" method="\Form@method">}%
12912 }
12913 \def\@endForm{\HCode{</form>}}
12914 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12915   \Hy@Message{Sorry, TeX4ht does not support gauges}%
12916 }
12917 \def\@TextField[#1]#2{% parameters, label
12918   \let\Hy@reserved@a\@empty
12919   \def\Fld@name{#2}%
12920   \let\Fld@default\ltx@empty
12921   \bgroup
12922     \Field@toks={ }%
12923     \kvsetkeys{Field}{#1}%
12924     \HCode{<label for="\Fld@name">#2</label>}%
12925     \ifFld@password
12926       \@@PasswordField
12927     \else
12928       \@@TextField
12929     \fi

```

```

12930 \egroup
12931 }
12932 \def\@@PasswordField{%
12933   \HCode{%
12934     <input type="password" %
12935       id="\Fld@name" %
12936       name="\Fld@name" %
12937       \ifFld@hidden type="hidden" \fi
12938       value="\Fld@default" %
12939       \the\Field@toks
12940     >%
12941   }%
12942 }
12943 \def\@@TextField{%
12944   \ifFld@multiline
12945     \HCode{<textarea %
12946       \ifFld@readonly readonly \fi
12947       id="\Fld@name" %
12948       name="\Fld@name" %
12949       \ifFld@hidden type="hidden" \fi
12950       \the\Field@toks>%
12951     }%
12952     \Fld@default
12953     \HCode{</textarea>}%
12954   \else
12955     \HCode{<input type="text" %
12956       \ifFld@readonly readonly \fi
12957       id="\Fld@name" %
12958       name="\Fld@name" %
12959       \ifFld@hidden type="hidden" \fi
12960       value="\Fld@default" %
12961       \the\Field@toks>%
12962     }%
12963   \fi
12964 }
12965 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12966   \def\Fld@name{#2}%
12967   \let\Fld@default\ltx@empty
12968   \let\Hy@reserved@a\relax
12969   \begingroup
12970     \expandafter\Fld@findlength#3\\%
12971     \Field@toks={ }%
12972     \kvsetkeys{Field}{#1}%
12973     #2%
12974     \ifFld@radio
12975       \expandafter\@@Radio#3\\%
12976     \else
12977       \expandafter\@@Menu#3\\%
12978     \fi
12979   \endgroup
12980 }
12981 \def\Fld@findlength#1\\{%
12982   \Fld@menulength=0 %
12983   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12984 }
12985 \def\@@Menu#1\\{%
12986   \HCode{<select size="\the\Fld@menulength" %

```

```

12987     name="\Fld@name" %
12988     \the\Field@toks>%
12989 }%
12990 \@for\@curropt:=#1\do{%
12991     \expandafter\Fld@checkequals\@curropt==\\%
12992     \HCode{<option %
12993         \ifx\@curropt\Fld@default selected \fi
12994         value="\@currValue">\@currDisplay</option>%
12995     }%
12996 }%
12997 \HCode{</select>}%
12998 }
12999 \def\@@Radio#1\\{%
13000     \@for\@curropt:=#1\do{%
13001         \expandafter\Fld@checkequals\@curropt==\\%
13002         \HCode{<input type="radio" %
13003             \ifx\@curropt\Fld@default checked \fi
13004             name="\Fld@name" %
13005             value="\@currValue" %
13006             \the\Field@toks>%
13007         }%
13008         \@currDisplay
13009     }%
13010 }
13011 \def\@PushButton[#1]#2{% parameters, label
13012     \def\Fld@name{#2}%
13013     \bgroup
13014     \Field@toks={ }%
13015     \kvsetkeys{Field}{#1}%
13016     \HCode{<input type="button" %
13017         name="\Fld@name" %
13018         value="#2" %
13019         \the\Field@toks>%
13020     }%
13021     \HCode{</button>}%
13022     \egroup
13023 }
13024 \def\@Submit[#1]#2{%
13025     \HCode{<button type="submit">#2</button>}%
13026 }
13027 \def\@Reset[#1]#2{%
13028     \HCode{<button type="reset">#2</button>}%
13029 }
13030 \def\@CheckBox[#1]#2{% parameters, label
13031     \let\Hy@reserved@a\@empty
13032     \def\Fld@name{#2}%
13033     \def\Fld@default{0}%
13034     \bgroup
13035     \Field@toks={ }%
13036     \kvsetkeys{Field}{#1}%
13037     \HCode{<input type="checkbox" %
13038         \ifFld@checked checked \fi
13039         \ifFld@disabled disabled \fi
13040         \ifFld@readonly readonly \fi
13041         name="\Fld@name" %
13042         \ifFld@hidden type="hidden" \fi
13043         value="\Fld@default" %

```



```

13044 \the\Field@toks>%
13045 #2%
13046 }%
13047 \egroup
13048 }
13049 </tex4ht>

```

## 47.4 pdfTeX

```

13050 <*pdfTeX>
13051 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13052 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
13053 }
13054 \def\MakeFieldObject#1#2{\sbox0{#1}%
13055 \immediate\pdfxform0 %
13056 \expandafter\edef\csname #2Object\endcsname{%
13057 \the\pdfastxform\space 0 R%
13058 }%
13059 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}}%
13060 }%
13061 \let\HyField@afields\ltx@empty
13062 \begingroup\expandafter\expandafter\expandafter\endgroup
13063 \expandafter\ifx\csname pdfastlink\endcsname\relax
13064 \let\HyField@AddToFields\relax
13065 \PackageInfo{hyperref}{%
13066 You need pdfTeX 1.40.0 for setting the /Fields entry.%
13067 \MessageBreak
13068 Adobe Reader/Acrobat accepts an empty /Field array,%
13069 \MessageBreak
13070 but other PDF viewers might complain%
13071 }%
13072 \else
13073 \let\HyField@AuxAddToFields\ltx@gobble
13074 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
13075 \Hy@AtBeginDocument{%
13076 \if@filesw
13077 \immediate\write\@mainaux{%
13078 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13079 }%
13080 \fi
13081 \let\HyField@AfterAuxOpen\@firstofone
13082 \def\HyField@AuxAddToFields#1{%
13083 \xdef\HyField@afields{%
13084 \ifx\HyField@afields\@empty
13085 \else
13086 \HyField@afields
13087 \space
13088 \fi
13089 #1 0 R%
13090 }%
13091 }%
13092 }%
13093 \def\HyField@AddToFields{%
13094 \expandafter\HyField@@AddToFields\expandafter{%
13095 \the\pdfastlink
13096 }%
13097 }%
13098 \def\HyField@@AddToFields#1{%

```

```

13099 \HyField@AfterAuxOpen{%
13100 \if@filesw
13101 \write\@mainaux{%
13102 \string\HyField@AuxAddToFields{#1}%
13103 }%
13104 \fi
13105 }%
13106 }%
13107 \fi
13108 \def\@Form[#1]{%
13109 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13110 \kvsetkeys{Form}{#1}%
13111 \pdf@ifdraftmode{}{%
13112 \Hy@FormObjects
13113 \ifnum\pdfTeXversion>13 %
13114 \pdfrefobj\OBJ@pdfdocencoding
13115 \pdfrefobj\OBJ@ZaDb
13116 \pdfrefobj\OBJ@Helv
13117 \fi
13118 \AtVeryEndDocument{%
13119 \immediate\pdfobj{%
13120 <<%
13121 /Fields[\HyField@afields]%
13122 /DR<<%
13123 /Font<<%
13124 /ZaDb \OBJ@ZaDb\space 0 R%
13125 /Helv \OBJ@Helv\space 0 R%
13126 >>%
13127 >>%
13128 /DA(/Helv 10 Tf 0 g)%
13129 \ifHy@pdfa
13130 \else
13131 \ifHyField@NeedAppearances
13132 /NeedAppearances true%
13133 \fi
13134 \fi
13135 >>%
13136 }%
13137 \edef\OBJ@acroform{\the\pdflastobj}%
13138 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13139 }%
13140 }%
13141 \MakeFieldObject{%

Same as \ding{123} of package pifont.
13142 \begingroup
13143 \fontfamily{pzd}%
13144 \fontencoding{U}%
13145 \fontseries{m}%
13146 \fontshape{n}%
13147 \selectfont
13148 \char123 %
13149 \endgroup
13150 }{Ding}%
13151 \MakeFieldObject{%
13152 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13153 }{Submit}%
13154 \MakeFieldObject{%

```

```

13155 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13156 }{\SubmitP}%
13157 }
13158 \let\@endForm\ltx@empty
13159 \def\@TextField[#1]#2{% parameters, label
13160 \def\Fld@name{#2}%
13161 \let\Fld@default\ltx@empty
13162 \let\Fld@value\@empty
13163 \def\Fld@width{\DefaultWidthofText}%
13164 \def\Fld@height{%
13165 \ifFld@multiline
13166 \DefaultHeightofTextMultiline
13167 \else
13168 \DefaultHeightofText
13169 \fi
13170 }%
13171 \begingroup
13172 \expandafter\HyField@SetKeys\expandafter{%
13173 \DefaultOptionsofText,#1%
13174 }%
13175 \PDFForm@Name
13176 \HyField@FlagsText
13177 \ifFld@hidden\def\Fld@width{1sp}\fi
13178 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13179 \LayoutTextField{#2}{%
13180 \leavevmode
13181 \Hy@escapeform\PDFForm@Text
13182 \pdfstartlink user {\PDFForm@Text}\relax
13183 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13184 \HyField@AddToFields
13185 }%
13186 \endgroup
13187 }
13188 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13189 \def\Fld@name{#2}%
13190 \let\Fld@default\relax
13191 \let\Fld@value\relax
13192 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13193 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13194 \begingroup
13195 \Fld@menulength=0 %
13196 \@tempdima\z@
13197 \@for\@curropt:=#3\do{%
13198 \expandafter\Fld@checkequals\@curropt==\%
13199 \Hy@StepCount\Fld@menulength
13200 \settowidth{\@tempdimb}{\@currDisplay}%
13201 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13202 }%
13203 \advance\@tempdima by 15\p@
13204 \begingroup
13205 \HyField@SetKeys{#1}%
13206 \edef\x{\endgroup
13207 \noexpand\expandafter
13208 \noexpand\HyField@SetKeys
13209 \noexpand\expandafter{%
13210 \expandafter\noexpand\curname DefaultOptionsof%
13211 \ifFld@radio

```

```

13212         Radio%
13213     \else
13214         \ifFld@combo
13215         \ifFld@popdown
13216             PopdownBox%
13217         \else
13218             ComboBox%
13219         \fi
13220     \else
13221         ListBox%
13222     \fi
13223 \fi
13224 \endcsname
13225 }%
13226 }\x
13227 \HyField@SetKeys{#1}%
13228 \PDFForm@Name
13229 \ifFld@hidden\def\Fld@width{1sp}\fi
13230 \ifx\Fld@value\relax
13231     \let\Fld@value\Fld@default
13232 \fi
13233 \LayoutChoiceField{#2}{%
13234     \ifFld@radio
13235         \HyField@FlagsRadioButton
13236         \@@Radio{#3}%
13237     \else
13238         \begingroup
13239         \HyField@FlagsChoice
13240         \ifdim\Fld@width<\@tempdima
13241             \ifdim\@tempdima<1cm\@tempdima1cm\fi
13242             \edef\Fld@width{\the\@tempdima}%
13243         \fi
13244         \ifFld@combo
13245         \else
13246             \@tempdima=\the\Fld@menulength\Fld@charsize
13247             \advance\@tempdima by \Fld@borderwidth bp %
13248             \advance\@tempdima by \Fld@borderwidth bp %
13249             \edef\Fld@height{\the\@tempdima}%
13250         \fi
13251         \@@ListBox{#3}%
13252     \endgroup
13253 \fi
13254 }%
13255 \endgroup
13256 }
13257 \def\@@Radio#1{%
13258     \Fld@listcount=0 %
13259     \EdefEscapeName\Fld@default{\Fld@default}%
13260     \@for\@curropt:=#1\do{%
13261         \expandafter\Fld@checkequals\@curropt==\%
13262         \EdefEscapeName\@currValue{\@currValue}%
13263         \Hy@StepCount\Fld@listcount
13264         \@currDisplay\space
13265         \leavevmode
13266         \Hy@escapeform\PDFForm@Radio
13267         \pdfstartlink user {%
13268             \PDFForm@Radio

```

13269 /AP<<%  
 13270 /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.

```

13271 /@\currValue\space \DingObject
13272 >>%
13273 >>%
13274 }%
13275 \relax
13276 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13277 \ifnum\Fld@listcount=1 %
13278 \HyField@AddToFields
13279 \fi
13280 \space % deliberate space between radio buttons
13281 }%
13282 }
13283 \newcount\Fld@listcount
13284 \def\@@ListBox#1{%
13285 \HyField@PDFChoices{#1}%
13286 \leavevmode
13287 \Hy@escapeform\PDFForm@List
13288 \pdfstartlink user {\PDFForm@List}\relax
13289 \MakeChoiceField{\Fld@width}{\Fld@height}%
13290 \pdfendlink
13291 \HyField@AddToFields
13292 }
13293 \def\@PushButton[#1]#2{% parameters, label
13294 \def\Fld@name{#2}%
13295 \begingroup
13296 \expandafter\HyField@SetKeys\expandafter{%
13297 \DefaultOptionsofPushButton,#1%
13298 }%
13299 \PDFForm@Name
13300 \ifHy@pdfa
13301 \Hy@Error{%
13302 PDF/A: Push button with JavaScript is prohibited%
13303 }\@ehc
13304 \LayoutPushButtonField{%
13305 \leavevmode
13306 \MakeButtonField{#2}%
13307 }%
13308 \else
13309 \HyField@FlagsPushButton
13310 \ifFld@hidden\def\Fld@width{1sp}\fi
13311 \LayoutPushButtonField{%
13312 \leavevmode
13313 \Hy@escapeform\PDFForm@Push
13314 \pdfstartlink user {\PDFForm@Push}\relax
13315 \MakeButtonField{#2}%
13316 \pdfendlink
13317 \HyField@AddToFields
13318 }%
13319 \fi
13320 \endgroup
13321 }
13322 \def\@Submit[#1]#2{%

```

```

13323 \def\Fld@width{\DefaultWidthofSubmit}%
13324 \def\Fld@height{\DefaultHeightofSubmit}%
13325 \begingroup
13326 \expandafter\HyField@SetKeys\expandafter{%
13327   \DefaultOptionsofSubmit,#1%
13328 }%
13329 \HyField@FlagsPushButton
13330 \HyField@FlagsSubmit
13331 \ifFld@hidden\def\Fld@width{1sp}\fi
13332 \leavevmode
13333 \Hy@escapeform\PDFForm@Submit
13334 \pdfstartlink user {%
13335   \PDFForm@Submit
13336   /AP<</N \SubmitObject/D \SubmitPObject>>%
13337 }%
13338 \relax
13339 \MakeButtonField{#2}%
13340 \pdfendlink
13341 \HyField@AddToFields
13342 \endgroup
13343 }
13344 \def\@Reset[#1]#2{%
13345   \def\Fld@width{\DefaultWidthofReset}%
13346   \def\Fld@height{\DefaultHeightofReset}%
13347   \begingroup
13348     \expandafter\HyField@SetKeys\expandafter{%
13349       \DefaultOptionsofReset,#1%
13350     }%
13351     \leavevmode
13352     \ifHy@pdfa
13353       \Hy@Error{%
13354         PDF/A: Reset action is prohibited%
13355       }\@ehc
13356       \MakeButtonField{#2}%
13357     \else
13358       \HyField@FlagsPushButton
13359       \ifFld@hidden\def\Fld@width{1sp}\fi
13360       \Hy@escapeform\PDFForm@Reset
13361       \pdfstartlink user {\PDFForm@Reset}\relax
13362       \MakeButtonField{#2}%
13363       \pdfendlink
13364       \HyField@AddToFields
13365     \fi
13366   \endgroup
13367 }
13368 \def\@CheckBox[#1]#2{% parameters, label
13369   \def\Fld@name{#2}%
13370   \def\Fld@default{0}%
13371   \begingroup
13372     \def\Fld@width{\DefaultWidthofCheckBox}%
13373     \def\Fld@height{\DefaultHeightofCheckBox}%
13374     \expandafter\HyField@SetKeys\expandafter{%
13375       \DefaultOptionsofCheckBox,#1%
13376     }%
13377     \PDFForm@Name
13378     \HyField@FlagsCheckBox
13379     \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

13380 \LayoutCheckField{#2}{}%
13381 \leavevmode
13382 \Hy@escapeform\PDFForm@Check
13383 \pdfstartlink user {\PDFForm@Check}\relax
13384 \MakeCheckField{\Fld@width}{\Fld@height}%
13385 \pdfendlink
13386 \HyField@AddToFields
13387 }%
13388 \endgroup
13389 }
13390 \def\Hy@FormObjects{%
13391 \pdfobj {%
13392 <<%
13393 /Type/Encoding%
13394 /Differences[%
13395 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13396 /ring/tilde %
13397 39/quotesingle %
13398 96/grave %
13399 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13400 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13401 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13402 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13403 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13404 164/currency %
13405 166/brokenbar %
13406 168/dieresis/copyright/ordfeminine %
13407 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13408 /twosuperior/threesuperior/acute/mu %
13409 183/periodcentered/cedilla/onesuperior/ordmasculine %
13410 188/onequarter/onehalf/threequarters %
13411 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13412 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13413 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13414 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13415 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13416 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13417 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13418 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13419 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13420 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13421 ]%
13422 >>%
13423 }%
13424 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
13425 \pdfobj{%
13426 <<%
13427 /Type/Font%
13428 /Subtype/Type1%
13429 /Name/ZaDb%
13430 /BaseFont/ZapfDingbats%
13431 >>%
13432 }%
13433 \xdef\OBJ@ZaDb{\the\pdflastobj}%
13434 \pdfobj{%
13435 <<%
13436 /Type/Font%

```

```

13437 /Subtype/Type1%
13438 /Name/Helv%
13439 /BaseFont/Helvetica%
13440 /Encoding \OBJ@pdfdocencoding\space 0 R%
13441 >>%
13442 }%
13443 \xdef\OBJ@Helv{\the\pdfastobj}%
13444 \global\let\Hy@FormObjects\relax
13445 }
13446 \pdfTeX

```

## 47.5 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.

```

13447 \*dvipdfm|xetex

```

\@Gauge

```

13448 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13449 \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13450 }

```

\@Form

```

13451 \def\@Form[#1]{%
13452 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13453 \kvsetkeys{Form}{#1}%
13454 \Hy@FormObjects
13455 \@pdfm@mark{obj @afields []}%
13456 \@pdfm@mark{obj @corder []}%
13457 \@pdfm@mark{%
13458 obj @aform <<%
13459 /Fields @afields%
13460 /DR<<%
13461 /Font<<%
13462 /ZaDb @OBJZaDb%
13463 /Helv @OBJHelv%
13464 >>%
13465 >>%
13466 /DA(/Helv 10 Tf 0 g)%
13467 /CO @corder%
13468 \ifHy@pdfa
13469 \else
13470 \ifHyField@NeedAppearances
13471 /NeedAppearances true%
13472 \fi
13473 \fi
13474 >>%
13475 }%
13476 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13477 }

```

\@endForm

```

13478 \let\@endForm\ltx@empty

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

13479 \def\dvipdfm@setdim{%
13480 height \the\ht\pdfm@box\space

```



```

13481 width \the\wd\pdfm@box\space
13482 depth \the\dp\pdfm@box\space
13483 }

```

\HyField@AnnotCount

```

13484 \newcount\HyField@AnnotCount
13485 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

13486 \def\HyField@AdvanceAnnotCount{%
13487 \global\advance\HyField@AnnotCount\@ne
13488 }

```

\HyField@TheAnnotCount

```

13489 \def\HyField@TheAnnotCount{%
13490 \the\HyField@AnnotCount
13491 }

```

\@TextField

```

13492 \def\@TextField[#1]#2{% parameters, label
13493 \def\Fld@name{#2}%
13494 \let\Fld@default\ltx@empty
13495 \let\Fld@value\@empty
13496 \def\Fld@width{\DefaultWidthofText}%
13497 \def\Fld@height{%
13498 \ifFld@multiline
13499 \DefaultHeightofTextMultiline
13500 \else
13501 \DefaultHeightofText
13502 \fi
13503 }%
13504 \begingroup
13505 \expandafter\HyField@SetKeys\expandafter{%
13506 \DefaultOptionsofText,#1%
13507 }%
13508 \PDFForm@Name
13509 \HyField@FlagsText
13510 \ifFld@hidden\def\Fld@width{1sp}\fi
13511 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13512 \setbox\pdfm@box=\hbox{%
13513 \MakeTextField{\Fld@width}{\Fld@height}%
13514 }%
13515 \HyField@AdvanceAnnotCount
13516 \LayoutTextField{#2}{%
13517 \leavevmode
13518 \Hy@escapeform\PDFForm@Text
13519 \@pdfm@mark{%
13520 ann @text\HyField@TheAnnotCount\space
13521 \dvi pdfm@setdim << \PDFForm@Text >>%
13522 }%
13523 }%
13524 \unhbox\pdfm@box
13525 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13526 % record in @afields array
13527 \endgroup
13528 }

```

\@ChoiceMenu

```

13529 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13530 \def\Fld@name{#2}%
13531 \let\Fld@default\relax
13532 \let\Fld@value\relax
13533 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13534 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13535 \begingroup
13536 \Fld@menulength=0 %
13537 \@tempdima\z@
13538 \@for\@curropt:=#3\do{%
13539 \expandafter\Fld@checkequals\@curropt==\\%
13540 \Hy@StepCount\Fld@menulength
13541 \settowidth{\@tempdimb}{\@currDisplay}%
13542 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13543 }%
13544 \advance\@tempdima by 15\p@
13545 \begingroup
13546 \HyField@SetKeys{#1}%
13547 \edef\x{\endgroup
13548 \noexpand\expandafter
13549 \noexpand\HyField@SetKeys
13550 \noexpand\expandafter{%
13551 \expandafter\noexpand\csname DefaultOptionsof%
13552 \ifFld@radio
13553 Radio%
13554 \else
13555 \ifFld@combo
13556 \ifFld@popdown
13557 PopdownBox%
13558 \else
13559 ComboBox%
13560 \fi
13561 \else
13562 ListBox%
13563 \fi
13564 \fi
13565 \endcsname
13566 }%
13567 }\x
13568 \HyField@SetKeys{#1}%
13569 \PDFForm@Name
13570 \ifFld@hidden\def\Fld@width{1sp}\fi
13571 \ifx\Fld@value\relax
13572 \let\Fld@value\Fld@default
13573 \fi
13574 \LayoutChoiceField{#2}{%
13575 \ifFld@radio
13576 \HyField@FlagsRadioButton
13577 \@@Radio{#3}%
13578 \else
13579 \begingroup
13580 \HyField@FlagsChoice
13581 \ifdim\Fld@width<\@tempdima
13582 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13583 \edef\Fld@width{\the\@tempdima}%
13584 \fi

```

```

13585     \ifFld@combo
13586     \else
13587         \@tempdima=\the\Fld@menulength\Fld@charsize
13588         \advance\@tempdima by \Fld@borderwidth bp %
13589         \advance\@tempdima by \Fld@borderwidth bp %
13590         \edef\Fld@height{\the\@tempdima}%
13591     \fi
13592     \@@ListBox{#3}%
13593 \endgroup
13594 \fi
13595 }%
13596 \endgroup
13597 }

```

\@@Radio

```

13598 \def\@@Radio#1{%
13599     \Fld@listcount=0 %
13600     \EdefEscapeName\Fld@default{\Fld@default}%
13601     \setbox\pdfm@box=\hbox{%
13602         \MakeRadioField{\Fld@width}{\Fld@height}%
13603     }%
13604     \@for\@curropt:=#1\do{%
13605         \expandafter\Fld@checkequals\@curropt==\%
13606         \EdefEscapeName\@currValue{\@currValue}%
13607         \Hy@StepCount\Fld@listcount
13608         \@currDisplay\space
13609         \leavevmode
13610         \Hy@escapeform\PDFForm@Radio
13611         \ifnum\Fld@listcount=1 %
13612             \HyField@AdvanceAnnotCount
13613         \fi
13614         \@pdfm@mark{%
13615             ann %
13616             \ifnum\Fld@listcount=1 %
13617                 @radio\HyField@TheAnnotCount%
13618             \space
13619         \fi
13620         \dvipdfm@setdim
13621         <<%
13622             \PDFForm@Radio
13623             /AP<</N<</\@currValue /null>>>>%
13624         >>%
13625     }%
13626     \unhcopy\pdfm@box\space% deliberate space between radio buttons
13627     \ifnum\Fld@listcount=1 %
13628         \@pdfm@mark{%
13629             put @afields @radio\HyField@TheAnnotCount
13630         }%
13631     \fi
13632 }%
13633 }

```

\Fld@listcount

```

13634 \newcount\Fld@listcount

```

\@@ListBox

```

13635 \def\@@ListBox#1{%

```

```

13636 \HyField@PDFChoices{#1}%
13637 \setbox\pdfm@box=\hbox{%
13638   \MakeChoiceField{\Fld@width}{\Fld@height}%
13639 }%
13640 \leavevmode
13641 \Hy@escapeform\PDFForm@List
13642 \HyField@AdvanceAnnotCount
13643 \@pdfm@mark{%
13644   ann @list\HyField@TheAnnotCount\space
13645   \dvipdfm@setdim
13646   <<\PDFForm@List>>%
13647 }%
13648 \unhbox\pdfm@box
13649 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
13650 }

```

\@PushButton

```

13651 \def\@PushButton[#1]#2{% parameters, label
13652   \def\Fld@name{#2}%
13653   \begingroup
13654     \expandafter\HyField@SetKeys\expandafter{%
13655       \DefaultOptionsofPushButton,#1%
13656     }%
13657     \PDFForm@Name
13658     \ifHy@pdfa
13659       \Hy@Error{%
13660         PDF/A: Push button with JavaScript is prohibited%
13661       }\@ehc
13662       \LayoutPushButtonField{%
13663         \leavevmode
13664         \MakeButtonField{#2}%
13665       }%
13666     \else
13667       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13668       \HyField@FlagsPushButton
13669       \ifFld@hidden\def\Fld@width{1sp}\fi
13670       \HyField@AdvanceAnnotCount
13671       \LayoutPushButtonField{%
13672         \leavevmode
13673         \Hy@escapeform\PDFForm@Push
13674         \@pdfm@mark{%
13675           ann @push\HyField@TheAnnotCount\space
13676           \dvipdfm@setdim
13677           <<\PDFForm@Push>>%
13678         }%
13679       }%
13680       \unhbox\pdfm@box
13681       \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
13682     \fi
13683   \endgroup
13684 }

```

\@Submit

```

13685 \def\@Submit[#1]#2{%
13686   \def\Fld@width{\DefaultWidthofSubmit}%
13687   \def\Fld@height{\DefaultHeightofSubmit}%
13688   \begingroup

```

```

13689 \expandafter\HyField@SetKeys\expandafter{%
13690 \DefaultOptionsofSubmit,#1%
13691 }%
13692 \HyField@FlagsPushButton
13693 \HyField@FlagsSubmit
13694 \ifFld@hidden\def\Fld@width{1sp}\fi
13695 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13696 \leavevmode
13697 \Hy@escapeform\PDFForm@Submit
13698 \HyField@AdvanceAnnotCount
13699 \@pdfm@mark{%
13700 ann @submit\HyField@TheAnnotCount\space
13701 \dvi pdfm@setdim
13702 <<\PDFForm@Submit>>%
13703 }%
13704 \unhbox\pdfm@box%
13705 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
13706 \endgroup
13707 }

```

\@Reset

```

13708 \def\@Reset[#1]#2{%
13709 \def\Fld@width{\DefaultWidthofReset}%
13710 \def\Fld@height{\DefaultHeightofReset}%
13711 \begingroup
13712 \expandafter\HyField@SetKeys\expandafter{%
13713 \DefaultOptionsofReset,#1%
13714 }%
13715 \leavevmode
13716 \ifHy@pdfa
13717 \Hy@Error{%
13718 PDF/A: Reset action is prohibited%
13719 }\@ehc
13720 \MakeButtonField{#2}%
13721 \else
13722 \HyField@FlagsPushButton
13723 \ifFld@hidden\def\Fld@width{1sp}\fi
13724 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13725 \Hy@escapeform\PDFForm@Reset
13726 \HyField@AdvanceAnnotCount
13727 \@pdfm@mark{%
13728 ann @reset\HyField@TheAnnotCount\space
13729 \dvi pdfm@setdim
13730 <<\PDFForm@Reset>>%
13731 }%
13732 \unhbox\pdfm@box
13733 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
13734 \fi
13735 \endgroup
13736 }

```

\@CheckBox

```

13737 \def\@CheckBox[#1]#2{% parameters, label
13738 \def\Fld@name{#2}%
13739 \def\Fld@default{0}%
13740 \begingroup
13741 \def\Fld@width{\DefaultWidthofCheckBox}%

```

```

13742 \def\Fld@height{\DefaultHeightofCheckBox}%
13743 \expandafter\HyField@SetKeys\expandafter{%
13744 \DefaultOptionsofCheckBox,#1%
13745 }%
13746 \PDFForm@Name
13747 \HyField@FlagsCheckBox
13748 \ifFld@hidden\def\Fld@width{1sp}\fi
13749 \setbox\pdfm@box=\hbox{%
13750 \MakeCheckField{\Fld@width}{\Fld@height}%
13751 }%
13752 \HyField@AdvanceAnnotCount
13753 \LayoutCheckField{#2}{%
13754 \leavevmode
13755 \Hy@escapeform\PDFForm@Check
13756 \@pdfm@mark{%
13757 ann @check\HyField@TheAnnotCount\space
13758 \dvi pdfm@setdim
13759 <<\PDFForm@Check>>%
13760 }%
13761 \unhbox\pdfm@box
13762 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
13763 }%
13764 \endgroup
13765 }

13766 \def\Hy@FormObjects{%
13767 \@pdfm@mark{obj @OBJpdfdocencoding%
13768 <<%
13769 /Type/Encoding%
13770 /Differences[
13771 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13772 39/quotesingle %
13773 96/grave %
13774 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13775 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13776 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13777 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13778 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13779 164/currency %
13780 166/brokenbar %
13781 168/dieresis/copyright/ordfeminine %
13782 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13783 /twosuperior/threesuperior/acute/mu %
13784 183/periodcentered/cedilla/onesuperior/ordmasculine %
13785 188/onequarter/onehalf/threequarters %
13786 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13787 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13788 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13789 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13790 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13791 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13792 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13793 /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
13794 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13795 /thorn/ydieresis%
13796 ]%
13797 >>%
13798 }%

```

```

13799 \@pdfm@mark{obj @OBJZaDb%
13800 <<%
13801 /Type/Font%
13802 /Subtype/Type1%
13803 /Name/ZaDb%
13804 /BaseFont/ZapfDingbats%
13805 >>%
13806 }%
13807 \@pdfm@mark{obj @OBJHelv%
13808 <<%
13809 /Type/Font%
13810 /Subtype/Type1%
13811 /Name/Helv%
13812 /BaseFont/Helvetica%
13813 /Encoding @OBJpdfdocencoding%
13814 >>%
13815 }%
13816 \global\let\Hy@FormObjects\relax
13817 }
13818 </dvipdfm | xetex>

```

## 47.6 Common forms part

```

13819 <*pdfform>

\Hy@escapestring
13820 \begingroup\expandafter\expandafter\expandafter\endgroup
13821 \expandafter\ifx\csname pdfescapestring\endcsname\relax
13822 \let\Hy@escapestring\@firstofone
13823 \def\Hy@escapeform#1{%
13824 \ifHy@pdfescapeform
13825 \def\Hy@escapestring##1{%
13826 \noexpand\Hy@escapestring{\noexpand##1}%
13827 }%
13828 \edef\Hy@temp{#1}%
13829 \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13830 \def\Hy@escapestring##1{%
13831 \@ifundefined{Hy@esc@\string##1}{%
13832 ##1%
13833 \ThisShouldNotHappen
13834 }{%
13835 \csname Hy@esc@\string##1\endcsname
13836 }%
13837 }%
13838 \else
13839 \let\Hy@escapestring\@firstofone
13840 \fi
13841 }%
13842 \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
13843 \ifx\#3\%
13844 \else
13845 \expandafter
13846 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13847 \ltx@ReturnAfterFi{%
13848 \Hy@@@escapeform#3\@nil
13849 }%
13850 \fi
13851 }%

```

```

13852 \else
13853 \def\Hy@escapeform#1{%
13854 \ifHy@pdfescapeform
13855 \let\Hy@escapestring\pdfescapestring
13856 \else
13857 \let\Hy@escapestring\@firstofone
13858 \fi
13859 }%
13860 \Hy@escapeform{}%
13861 \fi

```

#### \PDFForm@Name

```

13862 \def\PDFForm@Name{%
13863 \PDFForm@@Name\Fld@name
13864 \ifx\Fld@altname\relax
13865 \else
13866 \PDFForm@@Name\Fld@altname
13867 \fi
13868 \ifx\Fld@mappingname\relax
13869 \else
13870 \PDFForm@@Name\Fld@mappingname
13871 \fi
13872 }

```

#### \PDFForm@@Name

```

13873 \def\PDFForm@@Name#1{%
13874 \begingroup
13875 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
13876 \ifHy@unicode
13877 \Hy@unicodedefalse
13878 \fi
13879 \fi
13880 \HyPsd@XeTeXBigCharstrue
13881 \pdfstringdef\Hy@gtemp#1%
13882 \endgroup
13883 \let#1\Hy@gtemp
13884 }

```

#### \Fld@additionalactions

```

13885 \def\Fld@@additionalactions{%
K input (keystroke) format
13886 \ifx\Fld@keystroke@code\@empty
13887 \else
13888 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13889 \fi
F display format
13890 \ifx\Fld@format@code\@empty
13891 \else
13892 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13893 \fi
V validation
13894 \ifx\Fld@validate@code\@empty
13895 \else
13896 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13897 \fi

```



C calculation

```
13898 \ifx\Fld@calculate@code\@empty
13899 \else
13900 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13901 \fi
```

Fo receiving the input focus

```
13902 \ifx\Fld@onfocus@code\@empty
13903 \else
13904 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13905 \fi
```

Bl loosing the input focus (blurred)

```
13906 \ifx\Fld@onblur@code\@empty
13907 \else
13908 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13909 \fi
```

D pressing the mouse button (down)

```
13910 \ifx\Fld@onmousedown@code\@empty
13911 \else
13912 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13913 \fi
```

U releasing the mouse button (up)

```
13914 \ifx\Fld@onmouseup@code\@empty
13915 \else
13916 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13917 \fi
```

E cursor enters the annotation's active area.

```
13918 \ifx\Fld@onenter@code\@empty
13919 \else
13920 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13921 \fi
```

X cursor exits the annotation's active area.

```
13922 \ifx\Fld@onexit@code\@empty
13923 \else
13924 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13925 \fi
13926 }
```

```
13927 \def\Fld@additionalactions{%
13928 \if-\Fld@@additionalactions-%
13929 \else
13930 \ifHy@pdfa
13931 \else
13932 /AA<<\Fld@@additionalactions>>%
13933 \fi
13934 \fi
13935 }
```

\Fld@annotnames

```
13936 \def\Fld@annotnames{%
13937 /T(\Fld@name)%
13938 \ifx\Fld@altname\relax
13939 \else
13940 /TU(\Fld@altname)%
13941 \fi
```

```

13942 \ifx\Fld@mappingname\relax
13943 \else
13944 /TM(\Fld@mappingname)%
13945 \fi
13946 }

```

#### \PDFForm@Check

```

13947 \def\PDFForm@Check{%
13948 /Subtype/Widget%
13949 \Fld@annotflags
13950 \Fld@annotnames
13951 /FT/Btn%
13952 \Fld@flags
13953 /Q \Fld@align
13954 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13955 /MK<<%
13956 \ifnum\Fld@rotation=\z@
13957 \else
13958 /R \Fld@rotation
13959 \fi
13960 \ifx\Fld@bordercolor\relax
13961 \else
13962 /BC[\Fld@bordercolor]%
13963 \fi
13964 \ifx\Fld@bcolor\relax
13965 \else
13966 /BG[\Fld@bcolor]%
13967 \fi
13968 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13969 >>%
13970 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13971 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13972 /H/P%
13973 \ifFld@checked /V/Yes\else /V/Off\fi
13974 \Fld@additionalactions
13975 }

```

#### \PDFForm@Push

```

13976 \ifHy@pdfa
13977 \else
13978 \def\PDFForm@Push{%
13979 /Subtype/Widget%
13980 \Fld@annotflags
13981 \Fld@annotnames
13982 /FT/Btn%
13983 \Fld@flags
13984 /H/P%
13985 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13986 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13987 \ifx\Fld@bordercolor\relax\else 1\fi
13988 \space
13989 \else
13990 /MK<<%
13991 \ifnum\Fld@rotation=\z@
13992 \else
13993 /R \Fld@rotation
13994 \fi

```

```

13995     \ifx\Fld@bordercolor\relax
13996     \else
13997         /BC[\Fld@bordercolor]%
13998     \fi
13999     >>%
14000 \fi
14001 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14002 \Fld@additionalactions
14003 }%
14004 \fi

```

#### \PDFForm@List

```

14005 \def\PDFForm@List{%
14006 /Subtype/Widget%
14007 \Fld@annotflags
14008 \Fld@annotnames
14009 /FT/Ch%
14010 \Fld@flags
14011 /Q \Fld@align
14012 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14013 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14014     \ifx\Fld@bordercolor\relax\else 1\fi
14015     \ifx\Fld@bcolor\relax \else 1\fi
14016     \space
14017 \else
14018 /MK<<%
14019     \ifnum\Fld@rotation=\z@
14020     \else
14021         /R \Fld@rotation
14022     \fi
14023     \ifx\Fld@bordercolor\relax
14024     \else
14025         /BC[\Fld@bordercolor]%
14026     \fi
14027     \ifx\Fld@bcolor\relax
14028     \else
14029         /BG[\Fld@bcolor]%
14030     \fi
14031     >>%
14032 \fi
14033 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14034     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14035 \Fld@choices
14036 \Fld@additionalactions
14037 }

```

#### \PDFForm@Radio

```

14038 \def\PDFForm@Radio{%
14039 /Subtype/Widget%
14040 \Fld@annotflags
14041 \Fld@annotnames
14042 /FT/Btn%
14043 \Fld@flags
14044 /H/P%
14045 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14046 /MK<<%
14047     \ifnum\Fld@rotation=\z@

```

```

14048 \else
14049 /R \Fld@rotation
14050 \fi
14051 \ifx\Fld@bordercolor\relax
14052 \else
14053 /BC[\Fld@bordercolor]%
14054 \fi
14055 \ifx\Fld@bcolor\relax
14056 \else
14057 /BG[\Fld@bcolor]%
14058 \fi
14059 /CA(\Fld@radiosymbol)%
14060 >>%
14061 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14062 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14063 \ifx\@currValue\Fld@default
14064 /V/\Fld@default
14065 /DV/\Fld@default
14066 \else
14067 /V/Off%
14068 /DV/Off%
14069 \fi
14070 \Fld@additionalactions
14071 }

```

\PDFForm@Text

```

14072 \def\PDFForm@Text{%
14073 /Subtype/Widget%
14074 \Fld@annotflags
14075 \Fld@annotnames
14076 /FT/Tx%
14077 \Fld@flags
14078 /Q \Fld@align
14079 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14080 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14081 \ifx\Fld@bordercolor\relax\else 1\fi
14082 \ifx\Fld@bcolor\relax \else 1\fi
14083 \space
14084 \else
14085 /MK<<%
14086 \ifnum\Fld@rotation=\z@
14087 \else
14088 /R \Fld@rotation
14089 \fi
14090 \ifx\Fld@bordercolor\relax
14091 \else
14092 /BC[\Fld@bordercolor]%
14093 \fi
14094 \ifx\Fld@bcolor\relax
14095 \else
14096 /BG[\Fld@bcolor]%
14097 \fi
14098 >>%
14099 \fi
14100 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14101 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14102 /DV(\Hy@escapestring{\Fld@default})%
14103 /V(\Hy@escapestring{\Fld@value})%

```

```

14104 \Fld@additionalactions
14105 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14106 }

```

\PDFForm@Submit

```

14107 \def\PDFForm@Submit{%
14108 /Subtype/Widget%
14109 \Fld@annotflags
14110 \Fld@annotnames
14111 /FT/Btn%
14112 \Fld@flags
14113 /H/P%
14114 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14115 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14116     \ifx\Fld@bordercolor\relax\else 1\fi
14117     \space
14118 \else
14119 /MK<<%
14120     \ifnum\Fld@rotation=\z@
14121     \else
14122     /R \Fld@rotation
14123     \fi
14124     \ifx\Fld@bordercolor\relax
14125     \else
14126     /BC[\Fld@bordercolor]%
14127     \fi
14128 >>%
14129 \fi
14130 /A<<%
14131 /S/SubmitForm%
14132 /F<<%
14133 /FS/URL%
14134 /F(\Hy@escapestring{\Form@action})%
14135 >>%
14136 \Fld@submitflags
14137 >>%
14138 \Fld@additionalactions
14139 }

```

\PDFForm@Reset

```

14140 \ifHy@pdfa
14141 \else
14142 \def\PDFForm@Reset{%
14143 /Subtype/Widget%
14144 \Fld@annotflags
14145 \Fld@annotnames
14146 /FT/Btn%
14147 \Fld@flags
14148 /H/P%
14149 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14150 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14151     \ifx\Fld@bordercolor\relax\else 1\fi
14152     \space
14153 \else
14154 /MK<<%
14155     \ifnum\Fld@rotation=\z@
14156     \else

```

```

14157      /R \Fld@rotation
14158      \fi
14159      \ifx\Fld@bordercolor\relax
14160      \else
14161      /BC[\Fld@bordercolor]%
14162      \fi
14163 %      /CA (Clear)
14164 %      /AC (Done)
14165      >>%
14166      \fi
14167 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14168 /A<</S/ResetForm>>%
14169 \Fld@additionalactions
14170 }%
14171 \fi

14172 </pdfform>
14173 <*package>

```

## 48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `reper.sty`); it needed the `reper` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in  $\text{\LaTeX}$  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`

```

14174 \def\phantomsection{%
14175   \Hy@MakeCurrentHrefAuto{section*}%
14176   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14177 }
14178 </package>

```

### 48.1 Bookmarks

```
14179 <*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.

```

14180 \def\Hy@writebookmark#1#2#3#4#5{%
14181   % section number, text, label, level, file
14182   \ifx\WriteBookmarks\relax%
14183     \else
14184       \ifnum#4>\Hy@bookmarksdepth\relax
14185       \else
14186         \@@writetorep{#1}{#2}{#3}{#4}{#5}%
14187       \fi
14188     \fi
14189 }
14190 \def\Hy@currentbookmarklevel{0}
14191 \def\Hy@numberline#1{#1 }
14192 \def\@@writetorep#1#2#3#4#5{%
14193   \begingroup
14194     \edef\Hy@tempa{#5}%
14195     \ifx\Hy@tempa\Hy@bookmarkstype
14196       \edef\Hy@level{#4}%
14197       \ifx\Hy@levelcheck Y%
14198         \@tempcnta\Hy@level\relax
14199         \advance\@tempcnta by -1 %
14200         \ifnum\Hy@currentbookmarklevel<\@tempcnta
14201           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14202           \advance\@tempcnta by 1 %
14203           \Hy@Warning{%
14204             Difference (\the\@tempcnta) between bookmark levels is %
14205             greater \MessageBreak than one, level fixed%
14206           }%
14207           \@tempcnta\Hy@currentbookmarklevel
14208           \advance\@tempcnta by 1 %
14209           \edef\Hy@level{\the\@tempcnta}%
14210         \fi
14211       \else
14212         \global\let\Hy@levelcheck Y%
14213       \fi
14214       \global\let\Hy@currentbookmarklevel\Hy@level
14215       \@tempcnta\Hy@level\relax
14216       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14217       \advance\@tempcnta by -1 %
14218       \edef\Hy@tempa{#3}%
14219       \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14220       \ifx\Hy@tempa\Hy@tempb
14221         \Hy@Warning{%
14222           The anchor of a bookmark and its parent's must not%
14223           \MessageBreak be the same. Added a new anchor%
14224         }%
14225       \phantomsection
14226     \fi
14227     \ifHy@bookmarksnumbered
14228       \let\numberline\Hy@numberline
14229       \let\booknumberline\Hy@numberline
14230       \let\partnumberline\Hy@numberline
14231       \let\chapternumberline\Hy@numberline
14232     \else
14233       \let\numberline\@gobble
14234       \let\booknumberline\@gobble
14235       \let\partnumberline\@gobble
14236       \let\chapternumberline\@gobble

```

```

14237 \fi
14238 \HyPsd@XeTeXBigCharstrue
14239 \pdfstringdef\Hy@tempa{#2}%
14240 \HyPsd@SanitizeForOutFile\Hy@tempa
14241 \if@filesw
14242 \stepcounter{bookmark@seq@number}%
14243 \@ifundefined{@outlinefile}{%
14244 }{%
14245 \protected@write{@outlinefile}{%
14246 \protect\BOOKMARK
14247 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14248 {\Hy@tempa}{\Hy@tempb}%
14249 \@percentchar\space\thebookmark@seq@number
14250 }%
14251 }%
14252 \fi
14253 \fi
14254 \endgroup
14255 }
14256 \newcounter{bookmark@seq@number}

14257 \begingroup
14258 \lccode'('= '{%
14259 \lccode')='}%
14260 \lccode'1=\z@
14261 \lccode'2=\z@
14262 \lccode'3=\z@
14263 \lccode'5=\z@
14264 \lccode'7=\z@
14265 \lccode'\#=\z@
14266 \lccode'\='=\z@
14267 \lccode'\{=\z@
14268 \lccode'\}=\z@
14269 \lowercase{%
14270 \endgroup
14271 \def\HyPsd@SanitizeForOutFile#1{%
14272 \@onelevel@sanitize\Hy@tempa
14273 \escapechar'\%
14274 \edef\Hy@tempa{%
14275 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14276 }%
14277 \edef\Hy@tempa{%
14278 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14279 }%
14280 }%
14281 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14282 #1%
14283 \ifx\#2\%
14284 \expandafter\ltx@gobble
14285 \else
14286 \expandafter\ltx@firstofone
14287 \fi
14288 {%
14289 \string\173%
14290 \HyPsd@SanitizeOut@BraceLeft#2\@nil
14291 }%
14292 }%
14293 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%

```



```

14294   #1%
14295   \ifx\|#2\| %
14296     \expandafter\ltx@gobble
14297   \else
14298     \expandafter\ltx@firstofone
14299   \fi
14300   {%
14301     \string\175%
14302     \HyPsd@SanitizeOut@BraceRight#2\@nil
14303   }%
14304 }%
14305 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14306 \newcommand{\currentpdfbookmark}{%
14307   \pdfbookmark[\Hy@currentbookmarklevel]%
14308 }
14309 \newcommand{\subpdfbookmark}{%
14310   \@tempcnta\Hy@currentbookmarklevel
14311   \Hy@StepCount\@tempcnta
14312   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14313 }
14314 \newcommand{\belowpdfbookmark}[2]{%
14315   \@tempcnta\Hy@currentbookmarklevel
14316   \Hy@StepCount\@tempcnta
14317   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14318   \advance\@tempcnta by -1 %
14319   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14320 }

```

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.

```

14321 \renewcommand\pdfbookmark[3][0]{%
14322   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
14323   \hyper@anchorstart{#3.#1}\hyper@anchorend
14324 }
14325 \def\BOOKMARK{%
14326   \@ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14327 }
14328 \def\@BOOKMARK[#1]{%
14329   \@ifnextchar{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}%
14330 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

#### 48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

14331 \RequirePackage{rerunfilecheck}[2009/12/10]
14332 \def\Hy@OutlineRerunCheck{%
14333   \RerunFileCheck{\jobname.out}{%
14334     \immediate\closeout\@outlinefile
14335   }{%
14336     Rerun to get outlines right\MessageBreak
14337     or use package ‘bookmark’%
14338   }%

```

14339 }

#### 48.1.2 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.nl](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.

14340 {\*vtex}

14341 \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.

14342 \begingroup

14343 \catcode'\'=12 %

14344 \ifnum\Hy@VTeXversion<650 %

14345 \catcode'\''=12 %

14346 \gdef\hv@pdf@char#1#2#3{%

14347 \char

14348 \ifcase'#1#2#3 %

14349 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%

14350 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%

14351 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%

14352 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%

14353 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%

14354 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%

14355 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%

14356 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%

14357 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%

14358 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%

14359 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%

14360 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%

14361 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%

14362 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%

14363 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%

14364 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%

14365 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%

14366 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%

14367 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%

14368 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%

14369 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%

14370 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%

14371 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%

14372 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%

14373 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%

14374 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%

14375 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%

14376 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%

14377 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%

14378 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%

14379 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%

14380 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%

14381 \fi

14382 }%

14383 \else

```

14384 \gdef\hv@pdf@char{\char'}%
14385 \fi
14386 \endgroup

```

\@@BOOKMARK

```

14387 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14388 \expandafter\edef\csname @count@#3\endcsname{%
14389 \the\@serial@counter
14390 }%
14391 \edef\@mycount{\the\@serial@counter}%
14392 \Hy@StepCount\@serial@counter
14393 \edef\@parcount{%
14394 \expandafter\ifx\csname @count@#5\endcsname\relax
14395 0%
14396 \else
14397 \csname @count@#5\endcsname
14398 \fi
14399 }%
14400 \immediate\special{%
14401 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14402 s=\ifx#2-c\else o\fi,t=#4%
14403 }%
14404 }%

```

\ReadBookmarks

```

14405 \def\ReadBookmarks{%
14406 \begingroup
14407 \def\0{\hv@pdf@char 0}%
14408 \def\1{\hv@pdf@char 1}%
14409 \def\2{\hv@pdf@char 2}%
14410 \def\3{\hv@pdf@char 3}%
14411 \def\({}%
14412 \def\)}%
14413 \def\do##1{%
14414 \ifnum\catcode'##1=\active
14415 \@makeother##1%
14416 \else
14417 \ifnum\catcode'##1=6 %
14418 \@makeother##1%
14419 \fi
14420 \fi
14421 }%
14422 \dospecials
14423 \Hy@safe@activetrue
14424 \InputIfFileExists{jobname.out}{-}{-}%
14425 \endgroup
14426 \ifx\WriteBookmarks\relax
14427 \else
14428 \if@filesw
14429 \newwrite\@outlinefile
14430 \Hy@OutlineRerunCheck
14431 \immediate\openout\@outlinefile=jobname.out\relax
14432 \ifHy@typexml
14433 \immediate\write\@outlinefile{<relaxxml>\relax}%
14434 \fi
14435 \fi
14436 \fi
14437 }

```

```

14438 </vtex>
14439 <!*vtex>
14440 \def\ReadBookmarks{%
14441   \pdf@ifdraftmode{}{%
14442     \begingroup
14443     \def\do##1{%
14444       \ifnum\catcode'##1=\active
14445         \@makeother##1%
14446       \else
14447         \ifnum\catcode'##1=6 %
14448           \@makeother##1%
14449         \fi
14450       \fi
14451     }%
14452     \dospecials
14453     \Hy@safe@activetrue
14454     \escapechar=\%
14455     \def\@@BOOKMARK[##1][##2]##3##4##5{%
14456       \calc@bm@number{##5}%
14457     }%
14458     \InputIfFileExists{\jobname.out}{-}{-}%
14459     \ifx\WriteBookmarks\relax
14460       \global\let\WriteBookmarks\relax
14461     \fi
14462     \def\@@BOOKMARK[##1][##2]##3##4##5{%
14463       \def\Hy@temp{##4}%
14464     <*pdftex>
14465       \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14466       \Hy@OutlineName{}\Hy@pstringName{%
14467         ##2\check@bm@number{##3}%
14468       }%
14469       \expandafter\strip@prefix\meaning\Hy@temp
14470     }%
14471 </pdftex>
14472 <*pdfmark>
14473   \pdfmark{%
14474     pdfmark=/OUT,%
14475     Count={##2\check@bm@number{##3}},%
14476     Dest={##3},%
14477     Title=\expandafter\strip@prefix\meaning\Hy@temp
14478   }%
14479 </pdfmark>
14480 <*dvipdfm|xetex>
14481   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14482   \@pdfm@mark{%
14483     outline \ifHy@DvipdfmxOutlineOpen
14484       [%
14485       \ifnum##21>\z@
14486       \else
14487         -%
14488       \fi
14489       ] %
14490     \fi
14491     ##1<<%
14492     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14493     /A<<%
14494     /S/GoTo%

```

```

14495         /D(\Hy@pstringName)%
14496         >>%
14497         >>%
14498     }%
14499 </dvipdfm | xetex>
14500 }%
14501 \begingroup
14502 \def\WriteBookmarks{0}%
14503 \InputIfFileExists{jobname.out}{-}{-}%
14504 \endgroup
14505 %f\escapechar\m@ne\InputIfFileExists{jobname.out}{-}{-}%
14506 \endgroup
14507 }%
14508 \ifx\WriteBookmarks\relax
14509 \else
14510 \if@files
14511 \newwrite\@outlinefile
14512 \Hy@OutlineRerunCheck
14513 \immediate\openout\@outlinefile=jobname.out\relax
14514 \ifHy@typexml
14515 \immediate\write\@outlinefile{<relaxxml>\relax}%
14516 \fi
14517 \fi
14518 \fi
14519 }
14520 <*pdfTeX>
14521 \def\Hy@OutlineName#1#2#3#4{%
14522 \pdfoutline goto name{#2}count#3{#4}%
14523 }
14524 </pdfTeX>
14525 \def\check@bm@number#1{%
14526 \expandafter\ifx\csname B_#1\endcsname\relax
14527 0%
14528 \else
14529 \csname B_#1\endcsname
14530 \fi
14531 }
14532 \def\calc@bm@number#1{%
14533 \@tempcnta=\check@bm@number{#1}\relax
14534 \advance\@tempcnta by 1 %
14535 \expandafter\xdef\csname B_#1\endcsname{the\@tempcnta}%
14536 }
14537 </!vTeX>

14538 \ifHy@implicit
14539 \else
14540 \expandafter\endinput
14541 \fi

14542 </outlines>
14543 <*outlines | hypertex>

14544 \newlength\Hy@SectionHShift
14545 \def\Hy@SectionAnchorHref#1{%
14546 \ifx\protect\@typeset@protect
14547 \Hy@@@SectionAnchor{#1}%
14548 \fi
14549 }
14550 \DeclareRobustCommand*\Hy@@@SectionAnchor[1]{%

```

```

14551 \leavevmode
14552 \hbox to Opt{%
14553   \kern-\Hy@SectionHShift
14554   \Hy@raisedlink{%
14555     \hyper@anchorstart{#1}\hyper@anchorend
14556   }%
14557   \hss
14558 }%
14559 }
14560 \let\H@old@ssect\@ssect
14561 \def\@ssect#1#2#3#4#5{%
14562   \Hy@MakeCurrentHrefAuto{section*}%
14563   \setlength{\Hy@SectionHShift}{#1}%
14564   \begingroup
14565     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14566     \toks\tw@\expandafter{%
14567       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14568       #5%
14569     }%
14570   \edef\x{\endgroup
14571     \the\toks@\the\toks\tw@}%
14572   }\x
14573 }
14574 \let\H@old@schapter\@schapter
14575 \def\@schapter#1{%
14576   \begingroup
14577     \let\@mkboth\@gobbletwo
14578     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14579     \Hy@raisedlink{%
14580       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14581     }%
14582   \endgroup
14583   \H@old@schapter{#1}%
14584 }

```

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:

```

14585 \ltx@ifundefined{@chapter}{-}{%
14586   \let\Hy@org@chapter\@chapter
14587   \def\@chapter{%
14588     \def\Hy@next{%
14589       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14590       \Hy@raisedlink{%
14591         \hyper@anchorstart{\@currentHref}\hyper@anchorend
14592       }%
14593     }%
14594     \ifnum\c@secnumdepth>\m@ne
14595       \ltx@ifundefined{if@mainmatter}%
14596       \iftrue{\csname if@mainmatter\endcsname}%
14597       \let\Hy@next\relax
14598     \fi
14599     \fi
14600     \Hy@next
14601     \Hy@org@chapter
14602   }%
14603 }

```

```

14604 \let\H@old@part\@part
14605 \begingroup\expandafter\expandafter\expandafter\endgroup
14606 \expandafter\ifx\csname chapter\endcsname\relax
14607 \let\Hy@secnum@part\z@
14608 \else
14609 \let\Hy@secnum@part\m@ne
14610 \fi
14611 \def\@part{%
14612 \ifnum\Hy@secnum@part>\c@secnumdepth
14613 \phantomsection
14614 \fi
14615 \H@old@part
14616 }

14617 \let\H@old@spart\@spart
14618 \def\@spart#1{%
14619 \Hy@MakeCurrentHrefAuto{part*}%
14620 \Hy@raisedlink{%
14621 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14622 }%
14623 \H@old@spart{#1}%
14624 }

14625 \let\H@old@sect\@sect
14626 \def\@sect#1#2#3#4#5#6[#7]#8{%
14627 \ifnum #2>\c@secnumdepth
14628 \expandafter\@firstoftwo
14629 \else
14630 \expandafter\@secondoftwo
14631 \fi
14632 {%
14633 \Hy@MakeCurrentHrefAuto{section*}%
14634 \setlength{\Hy@SectionHShift}{#3}%
14635 \begingroup
14636 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
14637 \toks\tw@\expandafter{%
14638 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14639 #8%
14640 }%
14641 \edef\x{\endgroup
14642 \the\toks@\the\toks\tw@}%
14643 }\x
14644 }{%
14645 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
14646 }%
14647 }

14648 </outlines | hypertex>
14649 <*outlines>

14650 \expandafter\def\csname Parent-4\endcsname{}
14651 \expandafter\def\csname Parent-3\endcsname{}
14652 \expandafter\def\csname Parent-2\endcsname{}
14653 \expandafter\def\csname Parent-1\endcsname{}
14654 \expandafter\def\csname Parent0\endcsname{}
14655 \expandafter\def\csname Parent1\endcsname{}
14656 \expandafter\def\csname Parent2\endcsname{}
14657 \expandafter\def\csname Parent3\endcsname{}
14658 \expandafter\def\csname Parent4\endcsname{}

14659 </outlines>

```

## 49 Compatibility with koma-script classes

14660  $\langle$ \*outlines | hypertex $\rangle$

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.

```
14661 \def\Hy@tempa{%
14662   \def\@addchap{##1}##2{%
14663     \typeout{##2}%
14664     \if@twoside
14665       \@mkboth{##1}{}%
14666     \else
14667       \@mkboth{}{##1}%
14668     \fi
14669     \addtocontents{lof}{\protect\addvspace{10\p@}}%
14670     \addtocontents{lot}{\protect\addvspace{10\p@}}%
14671     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14672     \Hy@raisedlink{%
14673       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14674     }%
14675     \if@twocolumn
14676       \@topnewpage[\@makeschapterhead{##2}]%
14677     \else
14678       \@makeschapterhead{##2}%
14679       \@afterheading
14680     \fi
14681     \addcontentsline{toc}{chapter}{##1}%
14682   }%
14683 }
14684 \@ifclassloaded{scrbook}{%
14685   \@ifclasslater{scrbook}{2001/01/01}{%
14686     \let\Hy@tempa\@empty
14687   }{}%
14688 }{%
14689   \@ifclassloaded{scrreprt}{%
14690     \@ifclasslater{scrreprt}{2001/01/01}{%
14691       \let\Hy@tempa\@empty
14692     }{}%
14693   }{%
14694     \let\Hy@tempa\@empty
14695   }%
14696 }%
14697 \Hy@tempa
14698  $\rangle$ /outlines | hypertex
```

## 50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 50.1 PD1 encoding

```
14699  $\langle$ *pd1enc $\rangle$ 
14700 \DeclareFontEncoding{PD1}{}{}
```



## Accents

```

14701 \DeclareTextAccent{'}{PD1}{\textasciigrave}
14702 \DeclareTextAccent{'}{PD1}{\textacute}
14703 \DeclareTextAccent{^}{PD1}{\textasciicircum}
14704 \DeclareTextAccent{~}{PD1}{\texttilde}
14705 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
14706 \DeclareTextAccent{r}{PD1}{\textstring}
14707 \DeclareTextAccent{v}{PD1}{\textasciicaron}
14708 \DeclareTextAccent{.}{PD1}{\textdotaccent}
14709 \DeclareTextAccent{c}{PD1}{\textcedilla}
14710 \DeclareTextAccent{=}{PD1}{\textasciimacron}
14711 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
14712 \DeclareTextAccent{d}{PD1}{\textdotbelow}
14713 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
14714 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textacute}
14715 \DeclareTextCompositeCommand{^}{PD1}{\@empty}{\textasciicircum}
14716 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
14717 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
14718 \DeclareTextCompositeCommand{r}{PD1}{\@empty}{\textstring}
14719 \DeclareTextCompositeCommand{v}{PD1}{\@empty}{\textasciicaron}
14720 \DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}
14721 \DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}
14722 \DeclareTextCompositeCommand{=}{PD1}{\@empty}{\textasciimacron}
14723 \DeclareTextCompositeCommand{b}{PD1}{\@empty}{\textmacronbelow}
14724 \DeclareTextCompositeCommand{d}{PD1}{\@empty}{\textdotbelow}
14725 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textasciigrave}
14726 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textacute}
14727 \DeclareTextCompositeCommand{^}{PD1}{\ }{\textasciicircum}
14728 \DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}
14729 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}
14730 \DeclareTextCompositeCommand{r}{PD1}{\ }{\textstring}
14731 \DeclareTextCompositeCommand{v}{PD1}{\ }{\textasciicaron}
14732 \DeclareTextCompositeCommand{.}{PD1}{\ }{\textdotaccent}
14733 \DeclareTextCompositeCommand{c}{PD1}{\ }{\textcedilla}
14734 \DeclareTextCompositeCommand{=}{PD1}{\ }{\textasciimacron}
14735 \DeclareTextCompositeCommand{b}{PD1}{\ }{\textmacronbelow}
14736 \DeclareTextCompositeCommand{d}{PD1}{\ }{\textdotbelow}
14737 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14738 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14739 \DeclareTextCommand{\newtie}{PD1}[1]{%
14740 \TextSymbolUnavailable{\newtie{#1}}#1%
14741 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

14742 % U+0009 (CHARACTER TABULATION)
14743 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14744 % U+000A (LINE FEED)
14745 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14746 % U+000D (CARRIAGE RETURN)
14747 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

## Accent glyph names

```

14748 % U+02D8 BREVE; breve
14749 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14750 % U+02C7 CARON; caron
14751 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14752 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14753 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6

```

14754 % U+02D9 DOT ABOVE; dotaccent  
 14755 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9  
 14756 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 14757 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD  
 14758 % U+02DB OGONEK; ogonek  
 14759 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB  
 14760 % U+02DA RING ABOVE; ring  
 14761 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA  
 14762 % U+02DC SMALL TILDE; ilde, \*tilde  
 14763 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC  
 \040: U+0020 SPACE; \*space, spacehackarabic  
 \041: U+0021 EXCLAMATION MARK; exclam  
 14764 % U+0022 QUOTATION MARK; quotedbl  
 14765 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022  
 14766 % U+0023 NUMBER SIGN; numbersign  
 14767 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023  
 14768 % U+0024 DOLLAR SIGN; dollar  
 14769 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024  
 14770 % U+0025 PERCENT SIGN; percent  
 14771 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
 14772 % U+0026 AMPERSAND; ampersand  
 14773 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
 \047: U+0027 APOSTROPHE; quotesingle  
  
 14774 % U+0028 LEFT PARENTHESIS; parenleft  
 14775 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028  
 14776 % U+0029 RIGHT PARENTHESIS; parenright  
 14777 \DeclareTextCommand{\textparenright}{PD1}{\string\)%}% \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  
 14778 % U+002E FULL STOP; period  
 14779 \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  
 14780 % U+003C LESS-THAN SIGN; less  
 14781 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 14782 % U+003E GREATER-THAN SIGN; greater  
 14783 \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  
 14784 % U+005C REVERSE SOLIDUS; backslash  
 14785 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C

14786 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"  
 14787 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 14788 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 14789 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 14790 % U+005F LOW LINE; underscore  
 14791 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 14792 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 14793 % U+0060 GRAVE ACCENT; grave  
 14794 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 14795 % U+0069 LATIN SMALL LETTER I; i  
 14796 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 14797 % U+007B LEFT CURLY BRACKET; braceleft  
 14798 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 14799 % U+007C VERTICAL LINE; \*bar, verticalbar  
 14800 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 14801 % U+007D RIGHT CURLY BRACKET; braceright  
 14802 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 14803 % U+007E TILDE; asciitilde  
 14804 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 14805 % U+2022 BULLET; bullet  
 14806 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 14807 % U+2020 DAGGER; dagger  
 14808 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 14809 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
 14810 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 14811 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}  
 14812 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 14813 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 14814 % U+2014 EM DASH; emdash  
 14815 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 14816 % U+2013 EN DASH; endash  
 14817 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 14818 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 14819 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 14820 % U+2044 FRACTION SLASH; fraction  
 14821 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 14822 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 14823 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039  
 14824 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 lingright  
 14825 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A  
 14826 % U+2212 MINUS SIGN; minus  
 14827 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
 14828 % U+2030 PER MILLE SIGN; perthousand  
 14829 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
 14830 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 14831 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E

14832 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
14833 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
14834 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
14835 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
14836 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
14837 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
14838 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
14839 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
14840 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
14841 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
14842 % U+2122 TRADE MARK SIGN; trademark  
14843 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
14844 % U+FB01 LATIN SMALL LIGATURE FI; fi  
14845 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
14846 % U+FB02 LATIN SMALL LIGATURE FL; fl  
14847 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
14848 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
14849 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
14850 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
14851 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
14852 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
14853 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
14854 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
14855 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178  
14856 \DeclareTextCommand{\IJ}{PD1}{\230}  
14857 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
14858 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
14859 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
14860 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
14861 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
14862 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
14863 % U+0153 LATIN SMALL LIGATURE OE; oe  
14864 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
14865 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
14866 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
14867 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
14868 \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.  
14869 % U+20AC EURO SIGN; \*Euro, euro  
14870 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
14871 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
14872 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
14873 % U+00A2 CENT SIGN; cent  
14874 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
14875 % U+00A3 POUND SIGN; sterling  
14876 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
14877 % U+00A4 CURRENCY SIGN; currency  
14878 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
14879 % U+00A5 YEN SIGN; yen  
14880 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
14881 % U+00A6 BROKEN BAR; brokenbar  
14882 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
14883 % U+00A7 SECTION SIGN; section  
14884 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
14885 % U+00A8 DIAERESIS; dieresis  
14886 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8

14887 % U+00A9 COPYRIGHT SIGN; copyright  
 14888 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
 14889 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 14890 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 14891 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 14892 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 14893 % U+00AC NOT SIGN; logicalnot  
 14894 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 14895 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
 No glyph \255 in PDFDocEncoding.  
 14896 % U+00AE REGISTERED SIGN; registered  
 14897 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 14898 % U+00AF MACRON; \*macron, overscore  
 14899 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 14900 % U+00B0 DEGREE SIGN; degree  
 14901 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 14902 % U+00B1 PLUS-MINUS SIGN; plusminus  
 14903 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 14904 % U+00B2 SUPERSCRIFT TWO; twosuperior  
 14905 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%\* U+00B2  
 14906 % U+00B3 SUPERSCRIFT THREE; threesuperior  
 14907 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%\* U+00B3  
 14908 % U+00B4 ACUTE ACCENT; acute  
 14909 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
 14910 % U+00B5 MICRO SIGN; mu, mul  
 14911 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
 14912 % U+00B6 PILCROW SIGN; paragraph  
 14913 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
 14914 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 14915 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
 14916 % U+00B8 CEDILLA; cedilla  
 14917 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
 14918 % U+00B9 SUPERSCRIFT ONE; onesuperior  
 14919 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%\* U+00B9  
 14920 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 14921 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
 14922 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
 14923 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
 14924 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 14925 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
 14926 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 14927 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
 14928 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 14929 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
 14930 % U+00BF INVERTED QUESTION MARK; questiondown  
 14931 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
 14932 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 14933 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
 14934 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
 14935 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
 14936 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
 14937 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
 14938 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
 14939 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
 14940 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis

14941 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
14942 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
14943 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
14944 % U+00C6 LATIN CAPITAL LETTER AE; AE  
14945 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
14946 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
14947 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
14948 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
14949 \DeclareTextCompositeCommand{\'}{PD1}{E}{\310}% U+00C8  
14950 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
14951 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
14952 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
14953 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
14954 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
14955 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
14956 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
14957 \DeclareTextCompositeCommand{\'}{PD1}{I}{\314}% U+00CC  
14958 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
14959 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
14960 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
14961 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
14962 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
14963 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
14964 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
14965 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
14966 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
14967 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
14968 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
14969 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
14970 \DeclareTextCompositeCommand{\'}{PD1}{O}{\322}% U+00D2  
14971 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
14972 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
14973 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
14974 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
14975 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
14976 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
14977 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
14978 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
14979 % U+00D7 MULTIPLICATION SIGN; multiply  
14980 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
14981 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
14982 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
14983 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
14984 \DeclareTextCompositeCommand{\'}{PD1}{U}{\331}% U+00D9  
14985 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
14986 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
14987 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
14988 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
14989 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
14990 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
14991 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
14992 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
14993 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
14994 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
14995 \DeclareTextCommand{\textThorn}{PD1}{\336}%\* U+00DE  
14996 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
14997 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF

14998 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
14999 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
15000 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15001 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
15002 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15003 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
15004 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15005 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
15006 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15007 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
15008 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15009 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
15010 % U+00E6 LATIN SMALL LETTER AE; ae  
15011 \DeclareTextCompositeCommand{\ae}{PD1}{\346}% U+00E6  
15012 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15013 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
15014 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15015 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
15016 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15017 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
15018 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15019 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
15020 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15021 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
15022 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15023 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
15024 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15025 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15026 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15027 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15028 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15029 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15030 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15031 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15032 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15033 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15034 % U+00F0 LATIN SMALL LETTER ETH; eth  
15035 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
15036 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15037 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
15038 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
15039 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
15040 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
15041 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
15042 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
15043 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
15044 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
15045 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
15046 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
15047 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
15048 % U+00F7 DIVISION SIGN; divide  
15049 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
15050 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
15051 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
15052 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
15053 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9  
15054 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute

```

15055 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
15056 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
15057 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
15058 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15059 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
15060 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15061 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
15062 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
15063 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
15064 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
15065 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15066 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
15067 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

15068 \DeclareTextCommand{\SS}{PD1}{SS}
15069 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

15070 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
15071 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
15072 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
15073 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
15074 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
15075 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
15076 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
15077 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

15078 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
15079 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
15080 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
15081 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
15082 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
15083 \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).

```

15084 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15085 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15086 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15087 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
15088 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15089 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15090 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15091 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15092 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15093 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15094 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
15095 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15096 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15097 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

```

15098 </pd1enc>

```

## 50.2 PU encoding

```

15099 (*puenc)
15100 \DeclareFontEncoding{PU}{}{}

```



### 50.2.1 NFSS2 accents

```

15101 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15102 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
15103 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15104 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15105 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15106 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15107 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
15108 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15109 % U+0304 COMBINING MACRON; macroncmb
15110 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15111 % U+0306 COMBINING BREVE; brevecmb
15112 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15113 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15114 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15115 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15116 % U+0308 COMBINING DIAERESIS; dieresiscmb
15117 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15118 % U+030A COMBINING RING ABOVE; ringcmb
15119 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
15120 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
15121 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
15122 % U+030C COMBINING CARON; caroncmb
15123 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
15124 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15125 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
15126 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
15127 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15128 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
15129 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
15130 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
15131 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-
    laut (tipa)
15132 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
15133 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)
15134 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325
15135 % U+0327 COMBINING CEDILLA; cedillacmb
15136 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
15137 % U+0328 COMBINING OGONEK; ogonekcmb
15138 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
15139 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;
15140 % \textsubcircum (tipa)
15141 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
15142 % U+032E COMBINING BREVE BELOW; brevebelowcmb
15143 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E
15144 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)
15145 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330
15146 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
15147 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
15148 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
    blecmb
15149 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
15150 % U+20DD COMBINING ENCLOSING CIRCLE
15151 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

    Double accents.
15152 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}

```

```

15153 \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.
15154 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
15155 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
15156 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
15157 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
15158 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
15159 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
15160 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
15161 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
15162 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
15163 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
15164 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
15165 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
15166 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
15167 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
15168 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\83\021}
15169 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\83\044}
15170 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}
15171 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-
low}
15172 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\83\056}
15173 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildelow}
15174 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
15175 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
15176 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
15177 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
15178 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
15179 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\83\001\83\004}
15180 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\83\000\83\004}

15181 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}
15182 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
15183 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
15184 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
15185 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
15186 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
15187 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
15188 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
15189 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
15190 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
15191 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
15192 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
15193 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
15194 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
15195 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\83\021}
15196 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\83\044}
15197 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}
15198 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}
15199 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\83\056}
15200 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildelow}
15201 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
15202 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
15203 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
15204 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
15205 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}
15206 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\83\001\83\004}

```

15207 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{{ \83\000\83\004}}

Accents for capitals (see encoding TS1)

15208 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}  
 15209 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}  
 15210 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}  
 15211 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}  
 15212 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}  
 15213 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}  
 15214 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}  
 15215 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}  
 15216 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}  
 15217 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}  
 15218 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}  
 15219 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}  
 15220 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}  
 15221 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}  
 15222 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

## 50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

15223 % U+0009 (CHARACTER TABULATION)  
 15224 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009  
 15225 % U+000A (LINE FEED)  
 15226 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A  
 15227 % U+000D (CARRIAGE RETURN)  
 15228 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D  
 \80\040: U+0020 SPACE; space, spacehackarabic  
 \80\041: U+0021 EXCLAMATION MARK; exclam  
 15229 % U+0022 QUOTATION MARK; quotedbl  
 15230 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022  
 15231 % U+0023 NUMBER SIGN; numbersign  
 15232 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023  
 15233 % U+0024 DOLLAR SIGN; dollar  
 15234 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024  
 15235 %\* \textdollar -> \mathdollar  
 15236 % U+0025 PERCENT SIGN; percent  
 15237 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025  
 15238 % U+0026 AMPERSAND; ampersand  
 15239 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
 15240 %\* \textampersand -> \binampersand (stmaryrd)  
 15241 %\* \textampersand -> \with (cml)  
 15242 % U+0027 APOSTROPHE; quotesingle  
 15243 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
 15244 % U+0028 LEFT PARENTHESIS; parenleft  
 15245 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
 15246 % U+0029 RIGHT PARENTHESIS; parenright  
 15247 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
 15248 % U+002A ASTERISK; asterisk  
 15249 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A (?)  
 \80\053: U+002B PLUS SIGN; plus  
 \80\054: U+002C COMMA; comma  
 \80\055: U+002D HYPHEN-MINUS; hyphen  
 \80\056: U+002E FULL STOP; period  
 \80\057: U+002F SOLIDUS; slash  
 \80\060: U+0030 DIGIT ZERO; zero

...

\80\071: U+0039 DIGIT NINE; nine

\80\072: U+003A COLON; colon

\80\073: U+003B SEMICOLON; semicolon

15250 % U+003C LESS-THAN SIGN; less

15251 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C

\80\075: U+003D EQUALS SIGN; equal

15252 % U+003E GREATER-THAN SIGN; greater

15253 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E

\80\077: U+003F QUESTION MARK; question

\80\100: U+0040 COMMERCIAL AT; at

\80\101: U+0041 LATIN CAPITAL LETTER A; A

...

\80\132: U+005A LATIN CAPITAL LETTER Z; Z

\80\133: U+005B LEFT SQUARE BRACKET; bracketleft

15254 % U+005C REVERSE SOLIDUS; backslash

15255 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C

\80\135: U+005D RIGHT SQUARE BRACKET; bracketright

15256 % U+005E CIRCUMFLEX ACCENT; asciicircum

15257 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E

15258 % U+005F LOW LINE; underscore

15259 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F

15260 %\* \textunderscore -> \mathunderscore (LaTeX)

15261 % U+0060 GRAVE ACCENT; grave

15262 \DeclareTextCommand{\textasciigrave}{PU}{\80\140}% U+0060

\80\141: U+0061 LATIN SMALL LETTER A; a

...

\80\150: U+0068 LATIN SMALL LETTER H; h

15263 % U+0069 LATIN SMALL LETTER I; i

15264 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069

15265 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069

\80\152: U+006A LATIN SMALL LETTER J; j

...

\80\172: U+007A LATIN SMALL LETTER Z; z

15266 % U+007B LEFT CURLY BRACKET; braceleft

15267 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B

15268 % U+007C VERTICAL LINE; \*bar, verticalbar

15269 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C

15270 %\* \textbar -> \textvbarline (tipa)

15271 % U+007D RIGHT CURLY BRACKET; braceright

15272 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D

15273 % U+007E TILDE; asciitilde

15274 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

### 50.2.3 Latin-1 Supplement: U+0080 to U+00FF

\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace

15275 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown

15276 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1

15277 % U+00A2 CENT SIGN; cent

15278 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2

15279 % U+00A3 POUND SIGN; sterling

15280 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3

15281 %\* \textsterling -> \mathsterling (LaTeX)  
15282 %\* \textsterling -> \pounds (LaTeX)  
15283 % U+00A4 CURRENCY SIGN; currency  
15284 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
15285 % U+00A5 YEN SIGN; yen  
15286 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
15287 % U+00A6 BROKEN BAR; brokenbar  
15288 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
15289 %\* \textbrokenbar -> \brokenvert (wasysym)  
15290 % U+00A7 SECTION SIGN; section  
15291 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
15292 %\* \textsection -> \mathsection (LaTeX)  
15293 %\* \textsection -> \S (LaTeX)  
15294 % U+00A8 DIAERESIS; dieresis  
15295 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
15296 % U+00A9 COPYRIGHT SIGN; copyright  
15297 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%\* U+00A9  
15298 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
15299 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
15300 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motleft  
15301 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
15302 % U+00AC NOT SIGN; logicalnot  
15303 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
15304 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
\80\255: U+00AD SOFT HYPHEN; sftthyphen, softthyphen  
15305 % U+00AE REGISTERED SIGN; registered  
15306 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
15307 % U+00AF MACRON; \*macron, overscore  
15308 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
15309 % U+00B0 DEGREE SIGN; degree  
15310 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
15311 % U+00B1 PLUS-MINUS SIGN; plusminus  
15312 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
15313 % U+00B2 SUPERSCRIPT TWO; twosuperior  
15314 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%\* U+00B2  
15315 % U+00B3 SUPERSCRIPT THREE; threesuperior  
15316 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%\* U+00B3  
15317 % U+00B4 ACUTE ACCENT; acute  
15318 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
15319 \DeclareTextCommand{\textasciacute}{PU}{\80\264}% U+00B4  
15320 % U+00B5 MICRO SIGN; mu, mul  
15321 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
15322 % U+00B6 PILCROW SIGN; paragraph  
15323 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
15324 %\* \textparagraph -> \mathparagraph (LaTeX)  
15325 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15326 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
15327 % U+00B8 CEDILLA; cedilla  
15328 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
15329 % U+00B9 SUPERSCRIPT ONE; onesuperior  
15330 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%\* U+00B9  
15331 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
15332 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
15333 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
15334 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB

15335 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
15336 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
15337 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
15338 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
15339 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15340 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
15341 % U+00BF INVERTED QUESTION MARK; questiondown  
15342 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
15343 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15344 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
15345 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15346 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
15347 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15348 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
15349 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15350 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
15351 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15352 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
15353 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15354 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
15355 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15356 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
15357 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15358 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
15359 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15360 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
15361 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15362 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
15363 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15364 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
15365 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15366 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
15367 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15368 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
15369 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15370 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
15371 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15372 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
15373 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15374 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
15375 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15376 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
15377 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15378 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
15379 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15380 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
15381 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15382 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
15383 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15384 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
15385 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15386 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
15387 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15388 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
15389 % U+00D7 MULTIPLICATION SIGN; multiply  
15390 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
15391 %\* \textmultiply -> \vartimes (stmaryrd)

15392 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15393 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
15394 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15395 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9  
15396 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15397 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
15398 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15399 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
15400 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15401 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
15402 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15403 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
15404 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15405 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
15406 \DeclareTextCommand{\textThorn}{PU}{\80\336}%\* U+00DE  
15407 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15408 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
15409 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15410 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0  
15411 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15412 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
15413 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15414 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
15415 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15416 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
15417 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15418 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
15419 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15420 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
15421 % U+00E6 LATIN SMALL LETTER AE; ae  
15422 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
15423 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15424 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
15425 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15426 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
15427 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15428 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
15429 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15430 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
15431 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15432 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
15433 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15434 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
15435 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
15436 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15437 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15438 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15439 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15440 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15441 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15442 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15443 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15444 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15445 % U+00F0 LATIN SMALL LETTER ETH; eth  
15446 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
15447 %\* \dh -> \eth (wsuipa, phonetic)  
15448 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde

15449 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
15450 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
15451 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
15452 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
15453 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
15454 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
15455 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
15456 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
15457 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
15458 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
15459 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
15460 % U+00F7 DIVISION SIGN; divide  
15461 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
15462 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
15463 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
15464 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
15465 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
15466 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
15467 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
15468 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
15469 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
15470 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
15471 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
15472 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
15473 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
15474 % U+00FE LATIN SMALL LETTER THORN; thorn;  
15475 % \th, \thorn (wasysym), \textthorn (tipa)  
15476 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
15477 \DeclareTextCommand{\textthorn}{PU}{\80\376}%\* U+00FE  
15478 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
15479 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 50.2.4 Latin Extended-A: U+0080 to U+017F

15480 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
15481 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
15482 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
15483 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
15484 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
15485 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
15486 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
15487 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
15488 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
15489 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
15490 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
15491 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
15492 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
15493 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
15494 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
15495 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
15496 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
15497 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
15498 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
15499 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
15500 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-  
cent  
15501 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A



15502 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
15503 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
15504 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
15505 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
15506 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
15507 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
15508 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
15509 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
15510 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
15511 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
15512 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
15513 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
15514 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;  
15515 % \textcrd (tipa)  
15516 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
15517 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111  
15518 %\* \textcrd -> \crossd (wsuipa)  
15519 % An alternate glyph with the stroke through the bowl:  
15520 %\* \textcrd -> \textbard (tipa)  
15521 %\* \textcrd -> \bard (wsuipa)  
15522 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
15523 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
15524 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
15525 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
15526 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
15527 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
15528 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
15529 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
15530 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
15531 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
15532 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
15533 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
15534 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
15535 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
15536 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
15537 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
15538 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
15539 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
15540 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
15541 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
15542 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
15543 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
15544 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
15545 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
15546 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
15547 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
15548 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
15549 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
15550 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-  
cent  
15551 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
15552 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
15553 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
15554 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcom-  
maaccent  
15555 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
15556 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent

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15557 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
15558 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
15559 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
15560 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
15561 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
15562 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
15563 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
15564 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)
15565 \DeclareTextCommand{\textthbar}{PU}{\81\047}%* U+127
15566 %* \textthbar -> \textcrh (tipa)
15567 %* \textthbar -> \crossh (wsuipa)
15568 %* \textthbar -> \planck (phonetic)
15569 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
15570 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
15571 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
15572 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15573 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129
15574 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
15575 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
15576 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
15577 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
15578 \DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B
15579 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
15580 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
15581 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
15582 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15583 \DeclareTextCompositeCommand{\u}{PU}{\i}{\81\055}% U+012D
15584 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
15585 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
15586 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
15587 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15588 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F
15589 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
15590 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
15591 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
15592 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
15593 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
15594 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
15595 % U+0133 LATIN SMALL LIGATURE IJ; ij
15596 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
15597 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
15598 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
15599 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
15600 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
15601 \DeclareTextCompositeCommand{\^}{PU}{\j}{\81\065}% U+0135
15602 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
15603 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
15604 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
15605 \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 choosen `\textkra`.

```

15606 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
15607 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
15608 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
15609 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139

```

15610 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
15611 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
15612 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
cent  
15613 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
15614 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
15615 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
15616 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
15617 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
15618 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
15619 \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.  
15620 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
cent  
15621 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
15622 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
15623 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
15624 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
15625 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
15626 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
15627 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
15628 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
15629 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
15630 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
15631 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
15632 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
cent  
15633 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
15634 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
15635 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
15636 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
15637 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
15638 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
15639 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
15640 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
15641 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
15642 % U+014A LATIN CAPITAL LETTER ENG; Eng  
15643 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
15644 % U+014B LATIN SMALL LETTER ENG; eng  
15645 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
15646 %\* \ng -> \eng (wsuipa)  
15647 %\* \ng -> \engma (phonetic)  
15648 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
15649 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
15650 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
15651 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
15652 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
15653 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
15654 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
15655 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
15656 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut  
15657 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150

15658 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-  
 cute, ohungarumlaut  
 15659 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
 15660 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 15661 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
 15662 % U+0153 LATIN SMALL LIGATURE OE; oe  
 15663 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
 15664 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
 15665 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
 15666 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
 15667 \DeclareTextCompositeCommand{\r}{PU}{r}{\81\125}% U+0155  
 15668 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-  
 cent  
 15669 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
 15670 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
 15671 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
 15672 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
 15673 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
 15674 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
 15675 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
 15676 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
 15677 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
 15678 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
 15679 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
 15680 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
 15681 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
 15682 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
 15683 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
 15684 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
 15685 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
 15686 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
 15687 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
 15688 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 15689 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
 15690 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 15691 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
 15692 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-  
 cent  
 15693 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
 15694 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
 15695 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
 15696 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
 15697 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
 15698 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
 15699 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
 15700 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
 15701 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
 15702 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
 15703 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
 15704 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
 15705 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
 15706 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
 15707 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 15708 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
 15709 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
 15710 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
 15711 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B

15712 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
 15713 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
 15714 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
 15715 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
 15716 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
 15717 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
 15718 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
 15719 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
 15720 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udbla-  
 cute, Uhungarumlaut  
 15721 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
 15722 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udbla-  
 cute, uhungarumlaut  
 15723 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
 15724 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
 15725 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
 15726 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
 15727 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
 15728 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
 15729 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
 15730 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
 15731 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
 15732 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
 15733 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 15734 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 15735 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 15736 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 15737 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
 15738 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 15739 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
 15740 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 15741 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 15742 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 15743 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 15744 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 15745 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 15746 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 15747 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 15748 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 15749 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 15750 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 15751 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

### 50.2.5 Latin Extended-B: U+0180 to U+024F

15752 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)  
 15753 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180  
 15754 %\* \textcrb -> \crossb (wsuipa)  
 15755 % An alternate glyph with the stroke through the bowl:  
 15756 %\* \textcrb -> \textbarb (tipa)  
 15757 %\* \textcrb -> \barb (wsuipa)  
 15758 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausaB (pho-  
 netic)  
 15759 \DeclareTextCommand{\texthausaB}{PU}{\81\201}%\* U+0181  
 15760 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)  
 15761 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188  
 15762 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausaD (pho-  
 netic)

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15763 \DeclareTextCommand{\texthausaD}{PU}{\81\212}%* U+018A
15764 % U+018E LATIN CAPITAL LETTER REVERSED E; Ereversed
15765 \DeclareTextCommand{\textEreversed}{PU}{\81\216}% U+018E
15766 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E
15767 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
15768 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
15769 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)
15770 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195
15771 %* \texthvlig -> \hv (wsuipa)
15772 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (pho-
      netic)
15773 \DeclareTextCommand{\texthausaK}{PU}{\81\230}%* U+0198
15774 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)
15775 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199
15776 %* \texthtk -> \hausak (phonetic)
15777 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;
15778 % \textbarl (tipa), \barl (wsuipa)
15779 \DeclareTextCommand{\textbarl}{PU}{\81\232}%* U+019A
15780 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/
15781 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;
15782 % \textcrlambda (tipa)
15783 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B
15784 %* \textcrlambda -> \crossnilambda (wsuipa)
15785 %* \textcrlambda -> \barlambd (phonetic)
15786 %* \textcrlambda -> \lambdabar (txfonts/pxfonts)
15787 %* \textcrlambda -> \lambdaslash (txfonts/pxfonts)
15788 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nletright-
      long;
15789 % \textnrleg (tipx)
15790 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E
15791 %* \textPUnrleg -> \textnrleg (tipx)
15792 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)
15793 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5
15794 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;
15795 % \textlhookt (tipa)
15796 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB
15797 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)
15798 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD
15799 % U+01B9 LATIN SMALL LETTER EZH REVERSED/
15800 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)
15801 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9
15802 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)
15803 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB
15804 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;
15805 % glottalinvertedstroke; \textcrinvglotstop (tipa)
15806 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE
15807 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)
15808 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF
15809 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-
      tal;
15810 % \textpipe (tipa)
15811 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0
15812 %* \textpipe -> \textpipevar (tipx)
15813 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER
15814 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)
15815 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1
15816 %* \textdoublepipe -> \textdoublepipevar (tipx)

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15817 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOUBLE BAR;  
 15818 % clickalveolar; \textdoublebarpipe (tipa)  
 15819 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2  
 15820 %\* \textdoublebarpipe -> \textdoublebarpipevar (tipx)  
 15821 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 15822 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 15823 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 15824 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 15825 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 15826 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 15827 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 15828 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 15829 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\320}% U+01D0  
 15830 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 15831 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 15832 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 15833 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 15834 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 15835 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 15836 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 15837 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 15838 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)  
 15839 \DeclareTextCommand{\textinve}{PU}{\81\335}%\* U+01DD  
 15840 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 15841 \DeclareTextCommand{\textgslash}{PU}{\81\344}% U+01E4  
 15842 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 15843 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
 15844 %\* \textgslash -> \textcrg (tipa)  
 15845 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
 15846 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
 15847 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
 15848 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
 15849 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
 15850 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
 15851 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
 15852 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
 15853 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
 15854 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
 15855 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
 15856 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
 15857 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
 15858 \DeclareTextCompositeCommand{\v}{PU}{\j}{\81\360}% U+01F0  
 15859 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
 15860 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
 15861 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
 15862 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
 15863 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
 15864 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
 15865 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
 15866 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
 15867 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
 15868 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
 15869 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
 15870 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
 15871 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
 15872 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;

15873 % \*Oslashacute, Ostrokeacut  
 15874 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
 15875 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;  
 15876 % \*oslashacute, ostrokeacute  
 15877 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
 15878 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
 15879 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
 15880 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
 15881 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
 15882 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
 15883 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
 15884 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
 15885 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
 15886 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-  
 edbreve  
 15887 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206  
 15888 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einverted-  
 breve  
 15889 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207  
 15890 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
 15891 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
 15892 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
 15893 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 15894 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 15895 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-  
 breve  
 15896 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A  
 15897 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-  
 breve  
 15898 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
 15899 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
 15900 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
 15901 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
 15902 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
 15903 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
 15904 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-  
 edbreve  
 15905 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E  
 15906 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-  
 breve  
 15907 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F  
 15908 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
 15909 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
 15910 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
 15911 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
 15912 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
 15913 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
 15914 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
 15915 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 15916 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-  
 edbreve  
 15917 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216  
 15918 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-  
 breve  
 15919 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217  
 15920 % U+021D LATIN SMALL LETTER YOGH;  
 15921 % \textyogh (tipa), \yogh (wsuipa, phonetic)



15922 \DeclareTextCommand{\textyogh}{PU}{\82\035}%\* U+021D  
 15923 % U+021E LATIN CAPITAL LETTER H WITH CARON  
 15924 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 15925 % U+021F LATIN SMALL LETTER H WITH CARON  
 15926 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 15927 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)  
 15928 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221  
 15929 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)  
 15930 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225  
 15931 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 15932 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 15933 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 15934 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 15935 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 15936 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 15937 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 15938 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 15939 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 15940 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 15941 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 15942 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 15943 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 15944 \DeclareTextCompositeCommand{=} {PU}{Y}{\82\062}% U+0232  
 15945 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 15946 \DeclareTextCompositeCommand{=} {PU}{y}{\82\063}% U+0233  
 15947 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)  
 15948 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235  
 15949 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)  
 15950 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236  
 15951 % U+0237 LATIN SMALL LETTER DOTLESS J  
 15952 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237  
 15953 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)  
 15954 \DeclareTextCommand{\textPUdblig}{PU}{\82\068}% U+0238  
 15955 %\* \textPUdblig -> \textdblig (tipx)  
 15956 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)  
 15957 %\* \textPUqplig -> \textqplig (tipx)  
 15958 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)  
 15959 \DeclareTextCommand{\textslashc}{PU}{\82\074}%\* U+023C  
 15960 %\* \textslashc -> \textcentoldstyle (textcomp)  
 15961 % With bar instead of stroke:  
 15962 %\* \textslashc -> \textbarc (tipa)

### 50.2.6 IPA Extensions: U+0250 to U+02AF

15963 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)  
 15964 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+250  
 15965 %\* \textturna -> \inva (wasysym)  
 15966 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER  
 15967 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)  
 15968 \DeclareTextCommand{\textscripta}{PU}{\82\121}%\* U+251  
 15969 %\* \textscripta -> \vara (phonetic)  
 15970 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;  
 15971 % \textturnscripta (tipa)  
 15972 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+252  
 15973 %\* \textturnscripta -> \invscripta (wsuipa)  
 15974 %\* \textturnscripta -> \rotvara (phonetic)  
 15975 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)  
 15976 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+253

15977 %\* \texthtb -> \hookb (wsuipa)  
 15978 %\* \texthtb -> \hausab (phonetic)  
 15979 % U+0254 LATIN SMALL LETTER OPEN O; oopen;  
 15980 % \textopeno (tipa), \openo (wasysym)  
 15981 \DeclareTextCommand{\textopeno}{PU}{\82\124}%\* U+0254  
 15982 %\* \textopeno -> \varopeno (phonetic)  
 15983 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)  
 15984 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255  
 15985 %\* \textctc -> \curlyc (wsuipa)  
 15986 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)  
 15987 \DeclareTextCommand{\textrtaild}{PU}{\82\126}%\* U+0256  
 15988 %\* \textrtaild -> \taild (wsuipa)  
 15989 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)  
 15990 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257  
 15991 %\* \texthtd -> \hookd (wsuipa)  
 15992 %\* \texthtd -> \hausad (phonetic)  
 15993 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;  
 15994 % \textreve (tipa), \reve (wsuipa)  
 15995 \DeclareTextCommand{\textreve}{PU}{\82\130}%\* U+0258  
 15996 % U+0259 LATIN SMALL LETTER SCHWA; schwa;  
 15997 % \textschwa (tipa), \schwa (wsuipa, phonetic)  
 15998 \DeclareTextCommand{\textschwa}{PU}{\82\131}%\* U+0259  
 15999 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;  
 16000 % \textrhookswa (tipa)  
 16001 \DeclareTextCommand{\textrhookswa}{PU}{\82\132}% U+025A  
 16002 %\* \textrhookswa -> \er (wsuipa)  
 16003 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-  
 SILON; eopen;  
 16004 % \niepsilon (wsuipa)  
 16005 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}%\* U+025B  
 16006 %\* \textniepsilon -> \epsi (phonetic)  
 16007 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;  
 16008 % \textrevepsilon (tipa), \revepsilon (wsuipa)  
 16009 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}%\* U+025C  
 16010 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-  
 reversedhook;  
 16011 % \textrhookrevepsilon (tipa)  
 16012 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}%\* U+025D  
 16013 %\* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)  
 16014 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-  
 versedclosed;  
 16015 % \textcloserevepsilon (tipa)  
 16016 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E  
 16017 %\* \textcloserevepsilon -> \closedrevepsilon (wsuipa)  
 16018 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-  
 lessstroke;  
 16019 % \textbardotlessj (tipa)  
 16020 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F  
 16021 %\* \textbardotlessj -> \barj (phonetic)  
 16022 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)  
 16023 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260  
 16024 %\* \texthtg -> \hookg (wsuipa)  
 16025 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;  
 16026 % \textscriptg (tipa), \scriptg (wsuipa)  
 16027 \DeclareTextCommand{\textscriptg}{PU}{\82\141}%\* U+0261  
 16028 %\* \textscriptg -> \varg (phonetic)  
 16029 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)

16030 \DeclareTextCommand{\textscg}{PU}{\82\142}%\* U+0262  
16031 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinssmall;  
16032 % \ipagamma (wsuipa), \vod (phonetic)  
16033 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%\* U+0263  
16034 %\* \textipagamma -> \vod (pnonetic)  
16035 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;  
16036 % \babygamma (wsuipa)  
16037 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%\* U+0264  
16038 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)  
16039 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265  
16040 %\* \textturnh -> \invh (wsuipa)  
16041 %\* \textturnh -> \udesc (phonetic)  
16042 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)  
16043 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266  
16044 %\* \texthth -> \hookh (wsuipa)  
16045 %\* \texthth -> \voicedh (phonetic)  
16046 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \tex-  
ththeng (tipa)  
16047 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267  
16048 %\* \texththeng -> \hookheng (wsuipa)  
16049 % U+0268 LATIN SMALL LETTER I WITH STROKE;  
16050 % \textbari (tipa), \bari (wsuipa)  
16051 \DeclareTextCommand{\textbari}{PU}{\82\150}%\* U+0268  
16052 %\* \textbari -> \ibar (phonetic)  
16053 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)  
16054 \DeclareTextCommand{\textniiota}{PU}{\82\151}%\* U+0269  
16055 %\* \textniiota -> \vari (phonetic)  
16056 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)  
16057 \DeclareTextCommand{\textsci}{PU}{\82\152}%\* U+026A  
16058 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;  
16059 % \textltilde (tipa)  
16060 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B  
16061 %\* \textltilde -> \tildel (wsuipa)  
16062 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)  
16063 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C  
16064 %\* \textbeltl -> \latfric (wsuipa)  
16065 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;  
16066 % \hookretroflex; \textrtaill (tipa)  
16067 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D  
16068 %\* \textrtaill -> \taill (wsuipa)  
16069 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)  
16070 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E  
16071 %\* \textlyoghlig -> \lz (wsuipa)  
16072 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)  
16073 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F  
16074 %\* \textturnm -> \invm (wsuipa)  
16075 %\* \textturnm -> \rotm (phonetic)  
16076 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlongleg-  
turned;  
16077 % \textturnmrleg (tipa)  
16078 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270  
16079 %\* \textturnmrleg -> \legm (wsuipa)  
16080 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)  
16081 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271  
16082 %\* \textltailm -> \labdentalnas (wsuipa)  
16083 %\* \textltailm -> \emgma (phonetic)

16084 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textltailn (tipa)  
 16085 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272  
 16086 %\* \textltailn -> \nj (wsuipa)  
 16087 %\* \textltailn -> \enya (phonetic)  
 16088 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;  
 16089 % nhookretroflex; \textrtailn (tipa)  
 16090 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273  
 16091 %\* \textrtailn -> \tailn (wsuipa)  
 16092 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)  
 16093 \DeclareTextCommand{\textscn}{PU}{\82\164}% U+0274  
 16094 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/  
 16095 % LATIN CAPITAL LETTER BARRED O; obarred;  
 16096 % \textbaro (tipa), \baro (wsuipa)  
 16097 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275  
 16098 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscelig (tipa)  
 16099 \DeclareTextCommand{\textscelig}{PU}{\82\166}% U+0276  
 16100 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;  
 16101 % \textcloseomega (tipa)  
 16102 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277  
 16103 %\* \textcloseomega -> \closedniomega (wsuipa)  
 16104 %\* \textcloseomega -> \varomega (phonetic)  
 16105 % U+0278 LATIN SMALL LETTER PHI; philatin; \nippi (wsuipa)  
 16106 \DeclareTextCommand{\textnippi}{PU}{\82\170}% U+0278  
 16107 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)  
 16108 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279  
 16109 %\* \textturnr -> \invr (wsuipa)  
 16110 %\* \textturnr -> \rotr (phonetic)  
 16111 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;  
 16112 % rlonglegturned; \textturnlongleg (tipa)  
 16113 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A  
 16114 %\* \textturnlongleg -> \invleg (wsuipa)  
 16115 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhookturned;  
 16116 % \textturnrrtail (tipa)  
 16117 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B  
 16118 %\* \textturnrrtail -> \tailinvr (wsuipa)  
 16119 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlongleg (tipa)  
 16120 \DeclareTextCommand{\textlongleg}{PU}{\82\174}% U+027C  
 16121 %\* \textlongleg -> \leg (wsuipa)  
 16122 % U+027D LATIN SMALL LETTER R WITH TAIL; rhook; \textrtailr (tipa)  
 16123 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D  
 16124 %\* \textrtailr -> \tailr (wsuipa)  
 16125 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;  
 16126 % \textfishhookr (tipa)  
 16127 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E  
 16128 %\* \textfishhookr -> \flapr (wsuipa)  
 16129 %\* \textfishhookr -> \flap (phonetic)  
 16130 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfishhookreversed;  
 16131 % \textlhtlongi (tipa)  
 16132 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F  
 16133 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)  
 16134 \DeclareTextCommand{\textscr}{PU}{\82\200}% U+0280  
 16135 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;  
 16136 % \textinvscr (tipa), \invscr (wsuipa)  
 16137 \DeclareTextCommand{\textinvscr}{PU}{\82\201}% U+0281

16138 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \texttrails (tipa)  
16139 \DeclareTextCommand{\texttrails}{PU}{\82\202}% U+0282  
16140 %\* \texttrails -> \tails (wsuipa)  
16141 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)  
16142 \DeclareTextCommand{\textesh}{PU}{\82\203}% U+0283  
16143 %\* \textesh -> \textscriptv (t4phonet)  
16144 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;  
16145 % dotlessjstrokehook; \texthtbardotlessj (tipa)  
16146 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284  
16147 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatre-  
versed;  
16148 % \textvibyi (tipa)  
16149 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285  
16150 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)  
16151 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286  
16152 %\* \textctesh -> \curlyesh (wsuipa)  
16153 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)  
16154 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287  
16155 %\* \textturnt -> \clickt (wsuipa)  
16156 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflex-  
hook;  
16157 % \texttrtailt (tipa)  
16158 \DeclareTextCommand{\texttrtailt}{PU}{\82\210}% U+0288  
16159 %\* \texttrtailt -> \tailt (wsuipa)  
16160 % U+0289 LATIN SMALL LETTER U BAR; ubar;  
16161 % \textbaru (tipa), \baru (wsuipa)  
16162 \DeclareTextCommand{\textbaru}{PU}{\82\211}% U+0289  
16163 %\* \textbaru -> \ubar (phonetic)  
16164 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)  
16165 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}% U+028A  
16166 %\* \textniupsilon -> \rotOmega (phonetic)  
16167 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LET-  
TER SCRIPT V;  
16168 % vhook; \textscriptv (tipa), \scriptv (wsuipa)  
16169 \DeclareTextCommand{\textscriptv}{PU}{\82\213}% U+028B  
16170 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)  
16171 \DeclareTextCommand{\textturnv}{PU}{\82\214}% U+028C  
16172 %\* \textturnv -> \invv (wsuipa)  
16173 %\* \textturnv -> \pwedge (phonetic)  
16174 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)  
16175 \DeclareTextCommand{\textturnw}{PU}{\82\215}% U+028D  
16176 %\* \textturnw -> \invw (wsuipa)  
16177 %\* \textturnw -> \rotw (phonetic)  
16178 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)  
16179 \DeclareTextCommand{\textturny}{PU}{\82\216}% U+028E  
16180 %\* \textturny -> \invy (wsuipa)  
16181 %\* \textturny -> \roty (phonetic)  
16182 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)  
16183 \DeclareTextCommand{\textscy}{PU}{\82\217}% U+028F  
16184 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-  
hook;  
16185 % \texttrtailz (tipa)  
16186 \DeclareTextCommand{\texttrtailz}{PU}{\82\220}% U+0290  
16187 %\* \texttrtailz -> \tailz (wsuipa)  
16188 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)  
16189 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291  
16190 %\* \textctz -> \curlyz (wsuipa)

16191 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;  
16192 % \textyogh (tipa), \yogh (wsuipa)  
16193 \DeclareTextCommand{\textyogh}{PU}{\82\222}%\* U+0292  
16194 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LETTER YOGH CURL;  
16195 % ezhcurl; \textctyogh (tipa)  
16196 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293  
16197 %\* \textctyogh -> \curlyyogh (wsuipa)  
16198 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;  
16199 % \textglotstop (tipa), \glotstop (wsuipa)  
16200 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%\* U+0294  
16201 %\* \textglotstop -> \ejective (wsuipa)  
16202 %\* \textglotstop -> \glottal (phonetic)  
16203 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/  
16204 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;  
16205 % \textrevglotstop (tipa), \revglotstop (wsuipa)  
16206 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%\* U+0295  
16207 %\* \textrevglotstop -> \reveject (wsuipa)  
16208 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;  
16209 % \textinvglotstop (tipa), \invglotstop (wsuipa)  
16210 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%\* U+0296  
16211 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)  
16212 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297  
16213 %\* \textstretchc -> \clickc (wsuipa)  
16214 %\* \textstretchc -> \textstretchcvar (tipx)  
16215 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;  
16216 % \textbullseye (tipa)  
16217 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298  
16218 %\* \textbullseye -> \clickb (wsuipa)  
16219 %\* \textbullseye -> \textObullseye (tipx)  
16220 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)  
16221 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299  
16222 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;  
16223 % \textclosepsilon (tipa)  
16224 \DeclareTextCommand{\textclosepsilon}{PU}{\82\232}% U+029A  
16225 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;  
16226 % \texthtscg (tipa)  
16227 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B  
16228 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)  
16229 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C  
16230 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossed-tail; \textcdj (tipa)  
16231 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D  
16232 %\* \textctj -> \textctjvar (tipx)  
16233 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)  
16234 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E  
16235 %\* \textturnk -> \textturnsck (tipx)  
16236 % U+029F LATIN LETTER SMALL CAPITAL L; \textscL (tipa)  
16237 \DeclareTextCommand{\textscL}{PU}{\82\237}% U+029F  
16238 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)  
16239 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0  
16240 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-stroke;  
16241 % \textbarglotstop (tipa)  
16242 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1  
16243 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/

16244 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokereversed;  
 16245 % \textbarrevglotstop (tipa)  
 16246 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2  
 16247 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)  
 16248 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3  
 16249 %\* \textdzlig -> \dz (wsupipa)  
 16250 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyoghlig (tipa)  
 16251 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4  
 16252 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;  
 16253 % \textdctzlig (tipa)  
 16254 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5  
 16255 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)  
 16256 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6  
 16257 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \texttshlig (tipa)  
 16258 \DeclareTextCommand{\texttshlig}{PU}{\82\247}% U+02A7  
 16259 %\* \texttshlig -> \tesh (wsuipa)  
 16260 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;  
 16261 % \texttctclig (tipa)  
 16262 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8  
 16263 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;  
 16264 % \textlhtlongy (tipa)  
 16265 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE  
 16266 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;  
 16267 % \textvibyy (tipa)  
 16268 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

### 50.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16269 % U+02BD MODIFIER LETTER REVERSED COMMA;  
 16270 % commareversedmod, afii64937; \textrevapostrophe (tipa)  
 16271 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD  
 16272 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;  
 16273 % \textraiseglotstop (tipa)  
 16274 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0  
 16275 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;  
 16276 % \textlptr (tipa)  
 16277 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2  
 16278 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;  
 16279 % \textrptr (tipa)  
 16280 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3  
 16281 % U+02C7 CARON; caron  
 16282 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 16283 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;  
 16284 % \textprimstress (tipa)  
 16285 \DeclareTextCommand{\textprimstress}{PU}{\82\308}% U+02C8  
 16286 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;  
 16287 % \textsecstress (tipa)  
 16288 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC  
 16289 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;  
 16290 % \textlengthmark (tipa)  
 16291 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0  
 16292 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangularhalfmod;  
 16293 % \texthalflength (tipa)  
 16294 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1  
 16295 % U+02D8 BREVE; breve

16296 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 16297 % U+02D9 DOT ABOVE; dotaccent  
 16298 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 16299 % U+02DA RING ABOVE; ring  
 16300 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 16301 % U+02DB OGONEK; ogonek  
 16302 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 16303 % U+02DC SMALL TILDE; ilde, \*tilde  
 16304 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 16305 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 16306 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 16307 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 16308 % U+02F3 MODIFIER LETTER LOW RING  
 16309 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3  
 16310 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 16311 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 16312 % U+02F7 MODIFIER LETTER LOW TILDE  
 16313 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7  
 16314 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)  
 16315 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9  
 16316 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)  
 16317 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

## 50.2.8 Combining Diacritical Marks: U+0300 to U+036F

16318 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 16319 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 16320 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 16321 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 16322 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
 16323 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 16324 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 16325 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 16326 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 16327 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

## 50.2.9 Greek and Coptic: U+0370 to U+03FF

16328 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 16329 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 16330 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 16331 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 16332 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos  
 16333 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 16334 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 16335 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 16336 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 16337 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 16338 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 16339 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 16340 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos  
 16341 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 16342 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos  
 16343 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 16344 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 16345 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
 16346 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;



16347 %    iotadiesis  
16348 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390  
16349 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
16350 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
16351 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
16352 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
16353 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)  
16354 \DeclareTextCommand{\textGamma}{PU}{\83\223}%\* U+0393  
16355 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta; \Delta (LaTeX)  
16356 \DeclareTextCommand{\textDelta}{PU}{\83\224}%\* U+0394  
16357 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
16358 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
16359 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
16360 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
16361 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
16362 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
16363 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)  
16364 \DeclareTextCommand{\textTheta}{PU}{\83\230}%\* U+0398  
16365 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
16366 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
16367 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
16368 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
16369 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)  
16370 \DeclareTextCommand{\textLambda}{PU}{\83\233}%\* U+039B  
16371 % U+039C GREEK CAPITAL LETTER MU; Mu  
16372 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
16373 % U+039D GREEK CAPITAL LETTER NU; Nu  
16374 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
16375 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)  
16376 \DeclareTextCommand{\textXi}{PU}{\83\236}%\* U+039E  
16377 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
16378 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
16379 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
16380 \DeclareTextCommand{\textPi}{PU}{\83\240}%\* U+03A0  
16381 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
16382 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
16383 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)  
16384 \DeclareTextCommand{\textSigma}{PU}{\83\243}%\* U+03A3  
16385 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
16386 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
16387 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)  
16388 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%\* U+03A5  
16389 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)  
16390 \DeclareTextCommand{\textPhi}{PU}{\83\246}%\* U+03A6  
16391 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
16392 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
16393 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)  
16394 \DeclareTextCommand{\textPsi}{PU}{\83\250}%\* U+03A8  
16395 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega;  
16396 %    \Omega (LaTeX)  
16397 \DeclareTextCommand{\textOmega}{PU}{\83\251}%\* U+03A9  
16398 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadiesis  
16399 \DeclareTextCommand{\textIotadiesis}{PU}{\83\252}% U+03AA  
16400 \DeclareTextCompositeCommand{\"}{PU}{\textIota}{\83\252}% U+03AA  
16401 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilonondiesis

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16402 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
16403 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
16404 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}%* U+03AC
16405 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
16406 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
16407 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanot
16408 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
16409 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanot
16410 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
16411 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA
16412 % AND TONOS; upsilondieresisto
16413 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0
16414 % U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)
16415 \DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1
16416 % U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)
16417 \DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2
16418 % U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)
16419 \DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3
16420 % U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)
16421 \DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4
16422 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)
16423 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5
16424 % U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)
16425 \DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6
16426 % U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)
16427 \DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7
16428 % U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)
16429 \DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8
16430 % U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)
16431 \DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9
16432 % U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)
16433 \DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA
16434 % U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)
16435 \DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB
16436 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu; \mu (LaTeX)
16437 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC
16438 % U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)
16439 \DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD
16440 % U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)
16441 \DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE
16442 % U+03BF GREEK SMALL LETTER OMICRON; omicron
16443 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
16444 % U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)
16445 \DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0
16446 % U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)
16447 \DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1
16448 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
16449 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2
16450 % U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)
16451 \DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3
16452 % U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)
16453 \DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4
16454 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)
16455 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5
16456 % U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)
16457 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
16458 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)

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16459 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
16460 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)
16461 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
16462 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)
16463 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
16464 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
16465 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
16466 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
      silondieresis
16467 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
16468 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
16469 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
16470 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
16471 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
16472 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}% U+03CD
16473 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
16474 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
16475 % U+03DA GREEK LETTER STIGMA; Stigmagreek
16476 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
16477 % U+03DB GREEK SMALL LETTER STIGMA
16478 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
16479 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
16480 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
16481 % U+03DD GREEK SMALL LETTER DIGAMMA
16482 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
16483 %* \textdigammagreek -> \digamma (AmS)
16484 % U+03DE GREEK LETTER KOPPA; Koppagreek
16485 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
16486 % U+03DF GREEK SMALL LETTER KOPPA
16487 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
16488 % U+03E0 GREEK LETTER SAMPI; Sampigreek
16489 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
16490 % U+03E1 GREEK SMALL LETTER SAMPI
16491 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1
16492 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;
16493 % \backepsilon (AmS)
16494 \DeclareTextCommand{\textbackepsilon}{PU}{\83\366}% U+03F6

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## 50.2.10 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

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16495 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
16496 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
16497 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
16498 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
16499 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???
16500 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
16501 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
16502 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
16503 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
16504 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
16505 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
16506 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
16507 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
16508 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;
16509 % Icyrillic, *afii10055
16510 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406

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16511 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
16512 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
16513 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407  
16514 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
16515 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
16516 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
16517 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
16518 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
16519 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
16520 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
16521 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
16522 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
16523 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
16524 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
16525 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D  
16526 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
16527 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
16528 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
16529 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
16530 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
16531 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
16532 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
16533 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
16534 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
16535 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
16536 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
16537 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
16538 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
16539 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
16540 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
16541 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
16542 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
16543 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
16544 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
16545 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
16546 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
16547 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
16548 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
16549 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
16550 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
16551 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
16552 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
16553 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
16554 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
16555 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
16556 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
16557 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
16558 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
16559 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
16560 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
16561 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
16562 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
16563 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
16564 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
16565 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
16566 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
16567 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421

16568 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
16569 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
16570 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
16571 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
16572 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
16573 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
16574 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
16575 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
16576 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
16577 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
16578 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
16579 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
16580 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
16581 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
16582 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
16583 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
16584 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;  
16585 % Hardsigncyrillic, \*afii10044  
16586 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
16587 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
16588 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
16589 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;  
16590 % Softsigncyrillic, \*afii10046  
16591 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
16592 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
16593 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
16594 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
16595 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
16596 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
16597 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
16598 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
16599 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
16600 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
16601 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
16602 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
16603 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
16604 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
16605 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
16606 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
16607 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
16608 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
16609 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
16610 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
16611 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436  
16612 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
16613 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
16614 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
16615 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
16616 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
16617 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
16618 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
16619 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
16620 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
16621 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
16622 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B  
16623 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
16624 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C

16625 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
 16626 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
 16627 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
 16628 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
 16629 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
 16630 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
 16631 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
 16632 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
 16633 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
 16634 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441  
 16635 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
 16636 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
 16637 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
 16638 \DeclareTextCommand{\cyr u}{PU}{\84\103}% U+0443  
 16639 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
 16640 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
 16641 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
 16642 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
 16643 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
 16644 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
 16645 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
 16646 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
 16647 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
 16648 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
 16649 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
 16650 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
 16651 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
 16652 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
 16653 %\* \cyrhrdsn -> \hardsign (tipa)  
 16654 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
 16655 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B  
 16656 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
 16657 \DeclareTextCommand{\cyrsftsn}{PU}{\84\114}% U+044C  
 16658 %\* \cyrsftsn -> \softsign (tipa)  
 16659 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
 16660 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D  
 16661 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
 16662 \DeclareTextCommand{\cyr yu}{PU}{\84\116}% U+044E  
 16663 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
 16664 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F  
 16665 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
 16666 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
 16667 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
 16668 \DeclareTextCommand{\cyr y o}{PU}{\84\121}% U+0451  
 16669 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
 16670 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
 16671 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
 16672 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
 16673 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
 16674 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
 16675 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
 16676 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
 16677 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
 16678 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;  
 16679 % \*afii10103, icyrillic  
 16680 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456

16681 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
 16682 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
 16683 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
 16684 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
 16685 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
 16686 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
 16687 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
 16688 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
 16689 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
 16690 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
 16691 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
 16692 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
 16693 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
 16694 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
 16695 \DeclareTextCompositeCommand{\`}{PU}{\cyri}{\84\135}% U+045D  
 16696 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
 16697 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
 16698 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
 16699 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
 16700 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
 16701 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
 16702 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
 16703 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
 16704 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
 16705 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
 16706 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
 16707 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
 16708 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
 16709 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
 16710 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
 16711 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
 16712 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
 16713 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslitlecyrillic  
 16714 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
 16715 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslitlecyrillic  
 16716 \DeclareTextCommand{\cyrljus}{PU}{\84\147}% U+0467  
 16717 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-  
 otifiedcyrillic  
 16718 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
 16719 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-  
 fiedcyrillic  
 16720 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
 16721 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
 16722 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
 16723 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
 16724 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
 16725 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
 cyrillic  
 16726 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
 16727 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-  
 cyrillic  
 16728 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
 16729 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
 16730 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
 16731 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
 16732 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
 16733 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic

16734 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
16735 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
16736 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
16737 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
16738 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
16739 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
16740 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
16741 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
16742 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
16743 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
16744 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
16745 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE  
16746 % GRAVE ACCENT; Izhitsadblgravecyrillic  
16747 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
16748 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE  
16749 % GRAVE ACCENT; izhitsadblgravecyrillic  
16750 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
16751 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
16752 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
16753 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
16754 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
16755 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
16756 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
16757 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
16758 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
16759 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
16760 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
16761 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
16762 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
16763 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
16764 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
16765 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
16766 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
16767 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
16768 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
16769 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
16770 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
16771 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
16772 \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  
16773 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
16774 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
16775 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
16776 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B



16777 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 16778 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 16779 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 16780 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 16781 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 16782 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 16783 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 16784 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 16785 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-  
 cyrillic, \*afii10050  
 16786 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 16787 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, ghe-  
 upturncyrillic  
 16788 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 16789 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-  
 cyrillic  
 16790 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
 16791 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 16792 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 16793 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;  
 16794 % Ghemiddlehookcyrillic  
 16795 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 16796 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;  
 16797 % ghemiddlehookcyrillic  
 16798 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 16799 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;  
 16800 % Zhedescendercyrillic  
 16801 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
 16802 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;  
 16803 % zhedescendercyrillic  
 16804 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
 16805 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-  
 dercyrillic  
 16806 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 16807 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
 16808 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-  
 cyrillic  
 16809 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
 16810 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 16811 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-  
 dercyrillic  
 16812 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 16813 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescen-  
 dercyrillic  
 16814 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
 16815 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;  
 16816 % Kaverticallstrokecyrillic  
 16817 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
 16818 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;  
 16819 % kaverticallstrokecyrillic  
 16820 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
 16821 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
 16822 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
 16823 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
 16824 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
 16825 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 16826 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0

16827 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 16828 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 16829 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
 16830 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 16831 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic  
 16832 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 16833 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 16834 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 16835 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 16836 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 16837 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
 16838 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
 16839 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
 16840 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
 16841 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
 16842 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
 16843 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
 16844 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
 16845 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
 16846 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
 16847 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
 16848 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
 16849 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
 16850 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB  
 16851 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
 16852 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
 16853 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
 16854 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
 16855 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
 16856 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
 16857 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
 16858 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
 16859 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
 16860 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
 16861 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic  
 16862 \DeclareTextCommand{\cyr yhcrs}{PU}{\84\261}% U+04B1  
 16863 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesendercyrillic  
 16864 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
 16865 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
 16866 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
 16867 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
 16868 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
 16869 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
 16870 \DeclareTextCommand{\cyr tetse}{PU}{\84\265}% U+04B5

16871 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;  
 16872 % Chedescendercyrillic  
 16873 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
 16874 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescen-  
 dercyrillic  
 16875 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
 16876 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;  
 16877 % Cheverticalstrokecyrillic  
 16878 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
 16879 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;  
 16880 % cheverticalstrokecyrillic  
 16881 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
 16882 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
 16883 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
 16884 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
 16885 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
 16886 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-  
 cyrillic  
 16887 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
 16888 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-  
 lic  
 16889 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
 16890 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
 DER; Chedescenderabkhasiancyrillic  
 16891 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
 16892 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
 16893 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
 DER; chedescenderabkhasiancyrillic  
 16894 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
 16895 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
 16896 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
 16897 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
 16898 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
 16899 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
 16900 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
 16901 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
 16902 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
 16903 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
 16904 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
 16905 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
 16906 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
 16907 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
 16908 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
 16909 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
 16910 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
 16911 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
 16912 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
 16913 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
 16914 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-  
 siancyrillic  
 16915 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
 16916 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
 cyrillic  
 16917 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
 16918 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
 16919 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
 16920 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL

16921 \DeclareTextCommand{\cyrmjsc}{PU}{\84\316}% U+04CE  
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA

16922 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevacyrillic  
16923 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
16924 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevacyrillic  
16925 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
16926 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrl-  
lic  
16927 \DeclareTextCompositeCommand{\"}{PU}{\CYRA}{\84\322}% U+04D2  
16928 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
16929 \DeclareTextCompositeCommand{\"}{PU}{\cyra}{\84\323}% U+04D3  
16930 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
16931 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
16932 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
16933 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
16934 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevacyrillic  
16935 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
16936 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevacyrillic  
16937 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
16938 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
16939 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
16940 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
16941 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
16942 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;  
16943 % Schwadiesiscyrillic  
16944 \DeclareTextCompositeCommand{\"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
16945 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;  
16946 % schwadiesiscyrillic  
16947 \DeclareTextCompositeCommand{\"}{PU}{\cyrschwa}{\84\333}% U+04DB  
16948 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedie-  
siscyrillic  
16949 \DeclareTextCompositeCommand{\"}{PU}{\CYRZH}{\84\334}% U+04DC  
16950 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieres-  
cyrillic  
16951 \DeclareTextCompositeCommand{\"}{PU}{\cyrz}{\84\335}% U+04DD  
16952 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieres-  
cyrillic  
16953 \DeclareTextCompositeCommand{\"}{PU}{\CYRZ}{\84\336}% U+04DE  
16954 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrl-  
lic  
16955 \DeclareTextCompositeCommand{\"}{PU}{\cyrz}{\84\337}% U+04DF  
16956 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-  
cyrillic  
16957 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
16958 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrl-  
lic  
16959 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
16960 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
16961 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2  
16962 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
16963 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3  
16964 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
16965 \DeclareTextCompositeCommand{\"}{PU}{\CYRI}{\84\344}% U+04E4  
16966 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
16967 \DeclareTextCompositeCommand{\"}{PU}{\cyri}{\84\345}% U+04E5  
16968 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrl-  
lic

16969 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
 16970 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
 16971 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
 16972 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
 16973 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
 16974 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
 16975 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
 16976 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;  
 16977 % Obarreddieresiscyrillic  
 16978 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
 16979 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;  
 16980 % obarreddieresiscyrillic  
 16981 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
 16982 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
 16983 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
 16984 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
 16985 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
 16986 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
 16987 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE  
 16988 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
 16989 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF  
 16990 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
 16991 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
 16992 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
 16993 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 16994 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-  
 garumlautcyrillic  
 16995 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
 16996 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-  
 garumlautcyrillic  
 16997 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
 16998 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-  
 siscyrillic  
 16999 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 17000 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
 17001 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 17002 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 17003 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 17004 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 17005 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 17006 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-  
 siscyrillic  
 17007 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 17008 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-  
 siscyrillic  
 17009 \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  
 17010 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 17011 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 17012 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 17013 \DeclareTextCommand{\cyrhhk}{PU}{\84\375}% U+04FD

\84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE  
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

### 50.2.11 Thai: U+0E00 to U+0E7F

17014 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 17015 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

### 50.2.12 Phonetic Extensions: U+1D00 to U+1D7F

17016 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textscA (tipa)  
 17017 \DeclareTextCommand{\textscA}{PU}{\9035\000}% U+1D00  
 17018 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)  
 17019 \DeclareTextCommand{\textscd}{PU}{\9035\005}% U+1D05  
 17020 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textscE (tipa)  
 17021 \DeclareTextCommand{\textscE}{PU}{\9035\007}% U+1D07  
 17022 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscJ (tipa)  
 17023 \DeclareTextCommand{\textscJ}{PU}{\9035\012}% U+1D0A  
 17024 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textscK (tipx)  
 17025 \DeclareTextCommand{\textPUscK}{PU}{\9035\013}% U+1D0B  
 17026 %\* \textPUscK -> \textscK (tipx)  
 17027 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscM (tipx)  
 17028 \DeclareTextCommand{\textPUscM}{PU}{\9035\015}% U+1D0D  
 17029 %\* \textPUscM -> \textscM (tipx)  
 17030 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscP (tipx)  
 17031 \DeclareTextCommand{\textPUscP}{PU}{\9035\030}% U+1D18  
 17032 %\* \textPUscP -> \textscP (tipx)  
 17033 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)  
 17034 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19  
 17035 %\* \textPUrevscr -> \textrevscr (tipx)  
 17036 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscU (tipa), \scu (wsuipa)  
 17037 \DeclareTextCommand{\textscU}{PU}{\9035\034}% U+1D1C  
 17038 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I  
 17039 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}% U+1D62  
 17040 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R  
 17041 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}% U+1D63  
 17042 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U  
 17043 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}% U+1D64  
 17044 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V  
 17045 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}% U+1D65  
 17046 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA  
 17047 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}% U+1D66  
 17048 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA  
 17049 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}% U+1D67  
 17050 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO  
 17051 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}% U+1D68  
 17052 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI  
 17053 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}% U+1D69  
 17054 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI  
 17055 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}% U+1D6A  
 17056 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;  
 17057 % \barsci (wsuipa)  
 17058 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}% U+1D7B  
 17059 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)  
 17060 \DeclareTextCommand{\textbarp}{PU}{\9035\175}% U+1D7D  
 17061 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;  
 17062 % \barscu (wsuipa)  
 17063 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}% U+1D7E

### 50.2.13 Phonetic Extensions Supplement: U+1D80 to U+1DBF

```
17064 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-
      trhooka (tipx)
17065 \DeclareTextCommand{\textPurhooka}{PU}{\9035\217}% U+1D8F
17066 %* \textPurhooka -> \textrhooka (tipx)
17067 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-
      taild (tipa)
17068 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%* U+1D91
17069 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-
      trhooke (tipx)
17070 \DeclareTextCommand{\textPurhooke}{PU}{\9035\222}% U+1D92
17071 %* \textPurhooke -> \textrhooke (tipx)
17072 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;
17073 % \textrhookepsilon (tipx)
17074 \DeclareTextCommand{\textPurhookepsilon}{PU}{\9035\223}% U+1D93
17075 %* \textPurhookepsilon -> \textrhookepsilon (tipx)
17076 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;
17077 % \textrhookopeno (tipx)
17078 \DeclareTextCommand{\textPurhookopeno}{PU}{\9035\227}% U+1D97
17079 %* \textPurhookopeno -> \textrhookopeno (tipx)
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### 50.2.14 Latin Extended Additional: U+1E00 to U+1EFF

```
17080 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow
17081 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00
17082 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow
17083 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01
17084 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
17085 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02
17086 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
17087 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03
17088 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow
17089 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04
17090 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow
17091 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05
17092 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
17093 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
17094 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
17095 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
17096 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
17097 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
17098 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
17099 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
17100 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow
17101 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C
17102 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow
17103 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D
17104 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
17105 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
17106 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
17107 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
17108 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
17109 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
17110 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
17111 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
17112 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-
      cumflexbelow
17113 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12
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17114 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-  
cumflexbelow  
17115 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13  
17116 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;  
17117 % Emacrongrave  
17118 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14  
17119 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;  
17120 % emacrongrave  
17121 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15  
17122 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;  
17123 % Emacronacute  
17124 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16  
17125 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;  
17126 % emacronacute  
17127 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17  
17128 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-  
cumflexbelow  
17129 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18  
17130 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-  
cumflexbelow  
17131 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19  
17132 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow  
17133 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A  
17134 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow  
17135 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B  
17136 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
17137 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
17138 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
17139 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
17140 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
17141 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
17142 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
17143 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
17144 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
17145 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
17146 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
17147 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
17148 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow  
17149 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24  
17150 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow  
17151 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25  
17152 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
17153 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
17154 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
17155 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
17156 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
17157 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
17158 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
17159 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
17160 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow  
17161 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A  
17162 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow  
17163 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B  
17164 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow  
17165 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C  
17166 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow  
17167 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D



17168 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
17169 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
17170 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
17171 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
17172 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow  
17173 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32  
17174 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow  
17175 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33  
17176 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
17177 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
17178 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
17179 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
17180 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow  
17181 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36  
17182 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow  
17183 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37  
17184 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
17185 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
17186 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
17187 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
17188 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-  
cumflexbelow  
17189 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C  
17190 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-  
cumflexbelow  
17191 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D  
17192 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
17193 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
17194 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
17195 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
17196 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
17197 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
17198 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
17199 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
17200 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow  
17201 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42  
17202 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow  
17203 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43  
17204 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
17205 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
17206 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
17207 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
17208 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow  
17209 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46  
17210 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow  
17211 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47  
17212 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
17213 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
17214 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
17215 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
17216 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-  
cumflexbelow  
17217 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A  
17218 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-  
cumflexbelow  
17219 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B  
17220 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;

17221 % Omacrongrave  
17222 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50  
17223 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;  
17224 % omacrongrave  
17225 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51  
17226 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;  
17227 % Omacronacute  
17228 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52  
17229 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;  
17230 % omacronacute  
17231 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53  
17232 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
17233 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54  
17234 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
17235 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55  
17236 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
17237 \DeclareTextCompositeCommand{.}{PU}{P}{\9036\126}% U+1E56  
17238 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
17239 \DeclareTextCompositeCommand{.}{PU}{p}{\9036\127}% U+1E57  
17240 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
17241 \DeclareTextCompositeCommand{.}{PU}{R}{\9036\130}% U+1E58  
17242 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
17243 \DeclareTextCompositeCommand{.}{PU}{r}{\9036\131}% U+1E59  
17244 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow  
17245 \DeclareTextCompositeCommand{d}{PU}{R}{\9036\132}% U+1E5A  
17246 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow  
17247 \DeclareTextCompositeCommand{d}{PU}{r}{\9036\133}% U+1E5B  
17248 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
17249 \DeclareTextCompositeCommand{b}{PU}{R}{\9036\136}% U+1E5E  
17250 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
17251 \DeclareTextCompositeCommand{b}{PU}{r}{\9036\137}% U+1E5F  
17252 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
17253 \DeclareTextCompositeCommand{.}{PU}{S}{\9036\140}% U+1E60  
17254 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
17255 \DeclareTextCompositeCommand{.}{PU}{s}{\9036\141}% U+1E61  
17256 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow  
17257 \DeclareTextCompositeCommand{d}{PU}{S}{\9036\142}% U+1E62  
17258 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow  
17259 \DeclareTextCompositeCommand{d}{PU}{s}{\9036\143}% U+1E63  
17260 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent  
17261 \DeclareTextCompositeCommand{.}{PU}{T}{\9036\152}% U+1E6A  
17262 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent  
17263 \DeclareTextCompositeCommand{.}{PU}{t}{\9036\153}% U+1E6B  
17264 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow  
17265 \DeclareTextCompositeCommand{d}{PU}{T}{\9036\154}% U+1E6C  
17266 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow  
17267 \DeclareTextCompositeCommand{d}{PU}{t}{\9036\155}% U+1E6D  
17268 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
17269 \DeclareTextCompositeCommand{b}{PU}{T}{\9036\156}% U+1E6E  
17270 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
17271 \DeclareTextCompositeCommand{b}{PU}{t}{\9036\157}% U+1E6F  
17272 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-  
cumflexbelow  
17273 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70  
17274 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-  
cumflexbelow  
17275 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71

17276 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-  
 sisbelow  
 17277 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72  
 17278 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udieresis-  
 below  
 17279 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73  
 17280 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow  
 17281 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74  
 17282 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow  
 17283 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75  
 17284 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-  
 cumflexbelow  
 17285 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76  
 17286 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-  
 cumflexbelow  
 17287 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77  
 17288 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
 17289 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
 17290 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
 17291 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
 17292 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow  
 17293 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E  
 17294 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow  
 17295 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F  
 17296 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
 17297 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
 17298 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
 17299 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
 17300 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
 17301 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
 17302 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
 17303 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
 17304 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
 17305 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
 17306 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
 17307 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
 17308 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
 17309 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
 17310 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
 17311 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
 17312 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow  
 17313 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88  
 17314 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow  
 17315 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89  
 17316 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
 17317 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
 17318 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
 17319 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
 17320 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
 17321 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
 17322 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
 17323 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
 17324 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
 17325 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
 17326 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
 17327 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
 17328 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex

17329 \DeclareTextCompositeCommand{\~}{PU}{Z}{\9036\220}% U+1E90  
17330 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
17331 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
17332 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow  
17333 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92  
17334 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow  
17335 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93  
17336 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
17337 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
17338 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
17339 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
17340 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
17341 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
17342 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
17343 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
17344 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
17345 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
17346 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
17347 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
17348 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-  
taccent  
17349 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
17350 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow  
17351 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
17352 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow  
17353 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
17354 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow  
17355 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
17356 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow  
17357 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
17358 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
17359 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
17360 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
17361 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
17362 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow  
17363 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
17364 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow  
17365 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
17366 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow  
17367 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
17368 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow  
17369 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
17370 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow  
17371 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
17372 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow  
17373 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
17374 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
17375 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
17376 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
17377 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
17378 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow  
17379 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4  
17380 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow  
17381 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
17382 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
17383 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
17384 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde

17385 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

## 50.2.15 General Punctuation: U+2000 to U+206F

17386 % U+200C ZERO WIDTH NON-JOINER; \*afi61664, zerowidthnonjoiner  
 17387 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 17388 % U+2013 EN DASH; endash  
 17389 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 17390 % U+2014 EM DASH; emdash  
 17391 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 17392 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 17393 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 17394 %\* \textbardbl -> \textdoublevertline (tipa)  
 17395 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 17396 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 17397 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 17398 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 17399 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 17400 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 17401 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 17402 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 17403 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 17404 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 17405 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 17406 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 17407 % U+2020 DAGGER; dagger  
 17408 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%\* U+2020  
 17409 %\* \textdagger -> \dag (LaTeX)  
 17410 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
 17411 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 17412 %\* \textdaggerdbl -> \ddagger (LaTeX)  
 17413 %\* \textddag -> \ddag (LaTeX)  
 17414 % U+2022 BULLET; bullet  
 17415 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%\* U+2022  
 17416 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)  
 17417 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%\* U+2025  
 17418 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 17419 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 17420 %\* \textellipsis -> \mathellipsis  
 17421 % U+2030 PER MILLE SIGN; perthousand  
 17422 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 17423 % U+2031 PER TEN THOUSAND SIGN  
 17424 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 17425 % U+2032 PRIME; minute; \prime (MnSymbol)  
 17426 \DeclareTextCommand{\textprime}{PU}{\9040\062}%\* U+2032  
 17427 % U+2033 DOUBLE PRIME; \second (mathabx)  
 17428 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%\* U+2033  
 17429 % U+2034 TRIPLE PRIME; \third (mathabx)  
 17430 \DeclareTextCommand{\textthird}{PU}{\9040\064}%\* U+2034  
 17431 % U+2035 REVERSED PRIME; \backprime (AmS)  
 17432 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%\* U+2035  
 17433 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
   inglleft  
 17434 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 17435 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
   inglright  
 17436 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 17437 % U+203B REFERENCE MARK; referencemark

17438 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 17439 % U+203D INTERROBANG  
 17440 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 17441 % U+2044 FRACTION SLASH; fraction  
 17442 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 17443 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 17444 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 17445 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 17446 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 17447 % U+2052 COMMERCIAL MINUS SIGN  
 17448 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052  
 17449 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)  
 17450 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%\* U+2056  
 17451 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)  
 17452 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%\* U+2057  
 17453 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)  
 17454 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%\* U+2058

### 50.2.16 Superscripts and Subscripts: U+2070 to U+209F

17455 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 17456 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%\* U+2070  
 17457 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I  
 17458 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%\* U+2071  
 17459 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 17460 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%\* U+2074  
 17461 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 17462 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%\* U+2075  
 17463 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 17464 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%\* U+2076  
 17465 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 17466 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%\* U+2077  
 17467 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 17468 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%\* U+2078  
 17469 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 17470 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%\* U+2079  
 17471 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 17472 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%\* U+207A  
 17473 % U+207B SUPERSCRIPT MINUS  
 17474 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%\* U+207B  
 17475 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 17476 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%\* U+207C  
 17477 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 17478 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%\* U+207D  
 17479 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 17480 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%\* U+207E  
 17481 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 17482 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%\* U+207F  
 17483 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 17484 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%\* U+2080  
 17485 % U+2081 SUBSCRIPT ONE; oneinferior  
 17486 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%\* U+2081  
 17487 % U+2082 SUBSCRIPT TWO; twoinferior  
 17488 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%\* U+2082  
 17489 % U+2083 SUBSCRIPT THREE; threeminferior  
 17490 \DeclareTextCommand{\textthreeminferior}{PU}{\9040\203}%\* U+2083  
 17491 % U+2084 SUBSCRIPT FOUR; fourinferior  
 17492 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%\* U+2084

17493 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 17494 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%\* U+2085  
 17495 % U+2086 SUBSCRIPT SIX; sixinferior  
 17496 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%\* U+2086  
 17497 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 17498 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%\* U+2087  
 17499 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 17500 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%\* U+2088  
 17501 % U+2089 SUBSCRIPT NINE; nineinferior  
 17502 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%\* U+2089  
 17503 % U+208A SUBSCRIPT PLUS SIGN  
 17504 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%\* U+208A  
 17505 % U+208B SUBSCRIPT MINUS  
 17506 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%\* U+208B  
 17507 % U+208C SUBSCRIPT EQUALS SIGN  
 17508 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%\* U+208C  
 17509 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 17510 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%\* U+208D  
 17511 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 17512 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%\* U+208E  
 17513 % U+2090 LATIN SUBSCRIPT SMALL LETTER A  
 17514 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%\* U+2090  
 17515 % U+2091 LATIN SUBSCRIPT SMALL LETTER E  
 17516 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%\* U+2091  
 17517 % U+2092 LATIN SUBSCRIPT SMALL LETTER O  
 17518 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%\* U+2092  
 17519 % U+2093 LATIN SUBSCRIPT SMALL LETTER X  
 17520 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%\* U+2093  
 17521 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA  
 17522 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%\* U+2094  
 17523 % U+2095 LATIN SUBSCRIPT SMALL LETTER H  
 17524 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%\* U+2095  
 17525 % U+2096 LATIN SUBSCRIPT SMALL LETTER K  
 17526 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%\* U+2096  
 17527 % U+2097 LATIN SUBSCRIPT SMALL LETTER L  
 17528 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%\* U+2097  
 17529 % U+2098 LATIN SUBSCRIPT SMALL LETTER M  
 17530 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%\* U+2098  
 17531 % U+2099 LATIN SUBSCRIPT SMALL LETTER N  
 17532 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%\* U+2099  
 17533 % U+209A LATIN SUBSCRIPT SMALL LETTER P  
 17534 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%\* U+209A  
 17535 % U+209B LATIN SUBSCRIPT SMALL LETTER S  
 17536 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%\* U+209B  
 17537 % U+209C LATIN SUBSCRIPT SMALL LETTER T  
 17538 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%\* U+209C

### 50.2.17 Currency Symbols: U+20A0 to U+20CF

17539 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 17540 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 17541 % U+20A4 LIRA SIGN; afii08941, \*lira  
 17542 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 17543 % U+20A6 NAIRA SIGN  
 17544 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 17545 % U+20A7 PESETA SIGN; peseta  
 17546 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 17547 % U+20A9 WON SIGN; won

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17548 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
17549 % U+20AB DONG SIGN; dong
17550 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
17551 % U+20AC EURO SIGN; *Euro, euro
17552 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
17553 % U+20B1 PESO SIGN
17554 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
17555 % U+20B2 GUARANI SIGN
17556 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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## 50.2.18 Letterlike Symbols: U+2100 to U+214F

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17557 % U+2103 DEGREE CELSIUS; centigrade
17558 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
17559 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)
17560 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%* U+210F
17561 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (La-
    TeX)
17562 \DeclareTextCommand{\textIm}{PU}{\9041\021}%* U+2111
17563 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)
17564 \DeclareTextCommand{\textell}{PU}{\9041\023}%* U+2113
17565 % U+2116 NUMERO SIGN; *afii61352, numero
17566 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
17567 % U+2117 SOUND RECORDING COPYRIGHT
17568 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
17569 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);
17570 % weierstrass; \wp (LaTeX)
17571 \DeclareTextCommand{\textwp}{PU}{\9041\030}%* U+2118
17572 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)
17573 \DeclareTextCommand{\textRe}{PU}{\9041\034}%* U+211C
17574 % U+211E PRESCRIPTION TAKE; prescription
17575 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
17576 % U+2120 SERVICE MARK
17577 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
17578 % U+2122 TRADE MARK SIGN; trademark
17579 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
17580 % U+2126 OHM SIGN; Ohm, Omega
17581 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
17582 % U+2127 INVERTED OHM SIGN
17583 \DeclareTextCommand{\textmho}{PU}{\9041\047}%* U+2127
17584 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)
17585 \DeclareTextCommand{\textriota}{PU}{\9041\051}%* U+2129
17586 % U+212B ANGSTROM SIGN; angstrom
17587 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
17588 % U+212E ESTIMATED SYMBOL; estimated
17589 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
17590 % U+2132 TURNED CAPITAL F; \Finv (AmS)
17591 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%* U+2132
17592 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)
17593 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%* U+2135
17594 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)
17595 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%* U+2136
17596 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)
17597 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%* U+2137
17598 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)
17599 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%* U+2138
17600 % U+213B FACSIMILE SIGN; \fax (marvosym)
17601 \DeclareTextCommand{\textfax}{PU}{\9041\073}%* U+213B

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17602 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game  
17603 \DeclareTextCommand{\textGame}{PU}{\9041\101}%\* U+2141  
17604 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)  
17605 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B  
17606 %\* \textinvamp -> \bindnasrepma (stmaryrd)  
17607 %\* \textinvamp -> \parr (cml)

### 50.2.19 Number Forms: U+2150 to U+218F

17608 % U+2150 VULGAR FRACTION ONE SEVENTH  
17609 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150  
17610 % U+2151 VULGAR FRACTION ONE NINTH  
17611 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151  
17612 % U+2152 VULGAR FRACTION ONE TENTH  
17613 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152  
17614 % U+2153 VULGAR FRACTION ONE THIRD; onethird  
17615 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153  
17616 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds  
17617 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154  
17618 % U+2155 VULGAR FRACTION ONE FIFTH  
17619 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155  
17620 % U+2156 VULGAR FRACTION TWO FIFTHS  
17621 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156  
17622 % U+2157 VULGAR FRACTION THREE FIFTHS  
17623 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157  
17624 % U+2158 VULGAR FRACTION FOUR FIFTHS  
17625 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158  
17626 % U+2159 VULGAR FRACTION ONE SIXTH  
17627 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159  
17628 % U+215A VULGAR FRACTION FIVE SIXTHS  
17629 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A  
17630 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth  
17631 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B  
17632 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths  
17633 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C  
17634 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths  
17635 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D  
17636 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths  
17637 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E  
17638 % U+2184 LATIN SMALL LETTER REVERSED C  
17639 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184  
17640 % U+2189 VULGAR FRACTION ZERO THIRDS  
17641 \DeclareTextCommand{\textzerthirds}{PU}{\9041\211}% U+2189

### 50.2.20 Arrows: U+2190 to U+21FF

17642 % U+2190 LEFTWARDS ARROW; arrowleft  
17643 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%\* U+2190  
17644 % U+2191 UPWARDS ARROW; arrowup  
17645 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%\* U+2191  
17646 % U+2192 RIGHTWARDS ARROW; arrowright  
17647 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%\* U+2192  
17648 % U+2193 DOWNWARDS ARROW; arrowdown  
17649 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%\* U+2193  
17650 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightarrow (LaTeX)  
17651 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\224}%\* U+2194  
17652 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)  
17653 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%\* U+2195  
17654 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)

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17655 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%* U+2196
17656 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)
17657 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%* U+2197
17658 %* \textnearrow -> \textglobrise (tipa)
17659 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)
17660 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%* U+2198
17661 %* \textsearrow -> \textglobfall (tipa)
17662 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)
17663 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%* U+2199
17664 % U+219A LEFTWARDS ARROW WITH STROKE; \leftarrow (AmS)
17665 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%* U+219A
17666 % U+219B RIGHTWARDS ARROW WITH STROKE; \rightarrow (AmS)
17667 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%* U+219B
17668 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)
17669 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%* U+219E
17670 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)
17671 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%* U+219F
17672 % U+21A0 RIGHTWARDS TWO HEADED ARROW;
17673 % \twoheadrightarrow (AmS)
17674 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0
17675 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
Symbol)
17676 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
17677 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
17678 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
17679 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
17680 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
17681 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
17682 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
17683 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
17684 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
17685 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
17686 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
17687 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
17688 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
17689 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
17690 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
17691 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightarrow (AmS)
17692 \DeclareTextCommand{\textnleftrightarrow}{PU}{\9041\256}%* U+21AE
17693 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
17694 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
17695 %* \textlightning -> \Lightning (marvosym)
17696 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
17697 % \dls (mathabx)
17698 \DeclareTextCommand{\textdls}{PU}{\9041\265}%* U+21B5
17699 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
17700 % \curvearrowleft (AmS)
17701 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
17702 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
17703 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
17704 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
barbup;
17705 % \leftharpoonup (LaTeX)
17706 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
17707 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
17708 % \leftharpoondown (LaTeX)
17709 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD

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17710 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
17711 % \upharpoonright (AmS)
17712 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
17713 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
17714 % \upharpoonleft (AmS)
17715 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
17716 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
    barbup
17717 % \rightharpoonup (LaTeX)
17718 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
17719 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
17720 % \rightharpoondown (LaTeX)
17721 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
17722 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
17723 % \downharpoonright (AmS)
17724 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
17725 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
17726 % \downharpoonleft (AmS)
17727 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
17728 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
17729 % \rightarrowoverleft; \rightleftarrows (MnSymbol)
17730 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
17731 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
    rowupleftofdown;
17732 % \updownarrows (MnSymbol)
17733 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
17734 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleft-
    overright;
17735 % \leftrightarrows (AmS)
17736 \DeclareTextCommand{\textleftrightarrows}{PU}{\9041\306}%* U+21C6
17737 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
17738 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
17739 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
17740 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
17741 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
17742 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9
17743 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
17744 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
17745 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
17746 % \leftrightharpoons (AmS);
17747 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
17748 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
17749 % \rightleftharpoons (LaTeX, AmS)
17750 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
17751 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-
    blstroke;
17752 % \nLeftarrow (AmS)
17753 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
17754 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightarrow
    (AmS)
17755 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
17756 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightd-
    blstroke;
17757 % \nRightarrow (AmS)
17758 \DeclareTextCommand{\textnRightarrow}{PU}{\9041\317}%* U+21CF
17759 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
17760 % \Leftarrow (LaTeX)

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17761 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
17762 % U+21D1 UPWARDS DOUBLE ARROW; \Uparrow (LaTeX)
17763 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
17764 % U+21D2 RIGHTWARDS DOUBLE ARROW; \rightarrow (LaTeX)
17765 % \rightarrow (LaTeX)
17766 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%* U+21D2
17767 % U+21D3 DOWNWARDS DOUBLE ARROW; \Downarrow (LaTeX)
17768 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
17769 % U+21D4 LEFT RIGHT DOUBLE ARROW; \leftrightarrow (LaTeX)
17770 % \leftrightarrow (LaTeX)
17771 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
17772 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
17773 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
17774 % U+21D6 NORTH WEST DOUBLE ARROW; \nwarrow (MnSymbol)
17775 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
17776 % U+21D7 NORTH EAST DOUBLE ARROW; \nearrow (MnSymbol)
17777 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
17778 % U+21D8 SOUTH EAST DOUBLE ARROW; \searrow (MnSymbol)
17779 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
17780 % U+21D9 SOUTH WEST DOUBLE ARROW; \swarrow (MnSymbol)
17781 \DeclareTextCommand{\textSwarrow}{PU}{\9041\331}%* U+21D9
17782 % U+21DA LEFTWARDS TRIPLE ARROW; \leftarrow (AMS)
17783 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
17784 % U+21DB RIGHTWARDS TRIPLE ARROW; \rightarrow (MnSymbol)
17785 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
17786 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
17787 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
17788 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
17789 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
17790 % U+21E0 LEFTWARDS DASHED ARROW; \dashleftarrow (AMS)
17791 % \dashleftarrow (AMS)
17792 \DeclareTextCommand{\texdashleftarrow}{PU}{\9041\340}%* U+21E0
17793 %* \texdashleftarrow -> \dashedleftarrow (MnSymbol)
17794 % U+21E1 UPWARDS DASHED ARROW; \dashrightarrow (MnSymbol)
17795 \DeclareTextCommand{\texdashrightarrow}{PU}{\9041\341}%* U+21E1
17796 % U+21E2 RIGHTWARDS DASHED ARROW; \dashrightarrow (AMS)
17797 \DeclareTextCommand{\texdashrightarrow}{PU}{\9041\342}%* U+21E2
17798 %* \texdashrightarrow -> \dashedrightarrow (MnSymbol)
17799 % U+21E3 DOWNWARDS DASHED ARROW; \dashrightarrow (MnSymbol)
17800 \DeclareTextCommand{\texdashrightarrow}{PU}{\9041\343}%* U+21E3
17801 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
17802 % \downuparrows (MnSymbol)
17803 \DeclareTextCommand{\texdownuparrows}{PU}{\9041\365}%* U+21F5

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## 50.2.21 Mathematical Operators: U+2200 to U+22FF

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17804 % U+2200 FOR ALL; forall; \forall (LaTeX)
17805 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
17806 % U+2201 COMPLEMENT; \complement (AMS)
17807 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
17808 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
17809 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
17810 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
17811 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203

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17812 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
17813 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
17814 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
17815 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
17816 %* \textemptyset -> \varnothing (AmS)
17817 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
17818 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
17819 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
17820 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
17821 % U+2208 ELEMENT OF; element; \in (LaTeX)
17822 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
17823 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
17824 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209
17825 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
17826 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
17827 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
17828 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
17829 %* \textni -> \owns (mathabx)
17830 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
17831 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
17832 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
17833 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
17834 % U+220F N-ARY PRODUCT; \prod (LaTeX)
17835 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
17836 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
17837 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
17838 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
17839 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
17840 % U+2212 MINUS SIGN; minus
17841 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
17842 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
17843 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
17844 % U+2214 DOT PLUS; \dotplus (AmS)
17845 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
17846 % U+2216 SET MINUS; \setminus (LaTeX)
17847 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
17848 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
17849 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
17850 % U+2218 RING OPERATOR; \circ (LaTeX)
17851 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
17852 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
17853 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
17854 % U+221A SQUARE ROOT; radical
17855 \DeclareTextCommand{\textsqrt}{PU}{\9042\032}%* U+221A
17856 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
17857 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
17858 % U+221E INFINITY; infinity; \infty (LaTeX)
17859 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
17860 % U+2220 ANGLE; angle; \angle (LaTeX)
17861 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
17862 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
17863 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
17864 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
17865 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
17866 %* \textsphericalangle -> \varangle (wasysym)
17867 %* \textsphericalangle -> \Anglesign (marvosym)
17868 % U+2223 DIVIDES; divides; \mid (LaTeX)

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17869 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
17870 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
17871 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224
17872 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
17873 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
17874 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
17875 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
17876 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
17877 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
17878 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
17879 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
17880 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
17881 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
17882 % U+222A UNION; union; \cup (LaTeX)
17883 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
17884 % U+222B INTEGRAL; integral; \int (LaTeX)
17885 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
17886 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
17887 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
17888 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
17889 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
17890 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
17891 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
17892 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
17893 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
17894 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
17895 % \ointclockwise (txfonts/pxfonts)
17896 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
17897 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrclockwise (tx-
17898 % fonts/pxfonts)
17898 \DeclareTextCommand{\textointctrclockwise}{PU}{\9042\063}%* U+2233
17899 % U+2234 THEREFORE; therefore; \therefore (AmS)
17900 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
17901 %* \texttherefore -> uptherefore (MnSymbol)
17902 % U+2235 BECAUSE; because; \because (AmS)
17903 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
17904 %* \textbecause -> \downtherefore (MnSymbol)
17905 % U+2236 RATIO; \dotdot (MnSymbol)
17906 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
17907 % U+2237 PROPORTION; \squaredots (MnSymbol)
17908 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
17909 % U+2238 DOT MINUS; \dotminus (MnSymbol)
17910 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
17911 %* \textdotminus -> \textdotdiv (mathabx)
17912 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
17913 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239
17914 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)
17915 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
17916 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)
17917 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
17918 % U+2240 WREATH PRODUCT; \wr (LaTeX)
17919 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240
17920 %* \textwr -> \wreath (MnSymbol)
17921 % U+2241 NOT TILDE; \nsim (AmS)
17922 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
17923 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (La-
17924 % TeX)

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17924 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%\* U+2243  
17925 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)  
17926 \DeclareTextCommand{\textcong}{PU}{\9042\105}%\* U+2245  
17927 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;  
17928 % \ncong (AmS)  
17929 \DeclareTextCommand{\textncong}{PU}{\9042\107}%\* U+2247  
17930 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)  
17931 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%\* U+2248  
17932 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)  
17933 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%\* U+224A  
17934 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)  
17935 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%\* U+224B  
17936 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)  
17937 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%\* U+224C  
17938 % U+224D EQUIVALENT TO; \asymp (LaTeX)  
17939 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%\* U+224D  
17940 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)  
17941 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%\* U+224E  
17942 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)  
17943 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%\* U+224F  
17944 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)  
17945 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%\* U+2250  
17946 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;  
17947 % \doteqdot (AmS)  
17948 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%\* U+2251  
17949 %\* \textdoteqdot -> \Doteq (MnSymbol)  
17950 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-  
equalorimage;  
17951 % \fallingdotseq (AmS)  
17952 \DeclareTextCommand{\textfallingdotseq}{PU}{\9042\122}%\* U+2252  
17953 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapproxi-  
matelyequal;  
17954 % \risingdotseq (AmS)  
17955 \DeclareTextCommand{\textrisingdotseq}{PU}{\9042\123}%\* U+2253  
17956 % U+2254 COLON EQUALS; \colonequals (colonequals)  
17957 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%\* U+2254  
17958 % U+2255 EQUALS COLON; \equalscolon (colonequals)  
17959 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%\* U+2255  
17960 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)  
17961 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%\* U+2256  
17962 % U+2257 RING EQUAL TO; \circeq (AmS)  
17963 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%\* U+2257  
17964 % U+2259 ESTIMATES; \hateq (MnSymbol)  
17965 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%\* U+2259  
17966 %\* \texthateq -> \corresponds (mathabx)  
17967 % U+225C DELTA EQUAL TO; \triangleeq (AmS)  
17968 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%\* U+225C  
17969 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)  
17970 \DeclareTextCommand{\textneq}{PU}{\9042\140}%\* U+2260  
17971 \DeclareTextCommand{\textne}{PU}{\9042\140}%\* U+2260  
17972 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)  
17973 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%\* U+2261  
17974 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)  
17975 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%\* U+2262  
17976 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)  
17977 \DeclareTextCommand{\textleq}{PU}{\9042\144}%\* U+2264  
17978 \DeclareTextCommand{\textle}{PU}{\9042\144}%\* U+2264

17979 % U+2265 GREATER-THAN OR EQUAL TO; greaterqual;  
17980 % \ge (LaTeX), \geq (LaTeX)  
17981 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%\* U+2265  
17982 \DeclareTextCommand{\textge}{PU}{\9042\145}%\* U+2265  
17983 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)  
17984 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%\* U+2266  
17985 % U+2267 GREATER-THAN OVER EQUAL TO; greaterorequal; \geqq (AmS)  
17986 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%\* U+2267  
17987 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)  
17988 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%\* U+2268  
17989 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)  
17990 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%\* U+2269  
17991 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)  
17992 \DeclareTextCommand{\textll}{PU}{\9042\152}%\* U+226A  
17993 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)  
17994 \DeclareTextCommand{\textgg}{PU}{\9042\153}%\* U+226B  
17995 % U+226C BETWEEN; \between (AmS)  
17996 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%\* U+226C  
17997 % U+226E NOT LESS-THAN; notless; \nless (AmS)  
17998 \DeclareTextCommand{\textnless}{PU}{\9042\156}%\* U+226E  
17999 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)  
18000 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%\* U+226F  
18001 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;  
18002 % \nleq (AmS)  
18003 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%\* U+2270  
18004 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal;  
18005 % \ngeq (AmS)  
18005 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%\* U+2271  
18006 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lesssim (AmS)  
18007 \DeclareTextCommand{\textlesssim}{PU}{\9042\162}%\* U+2272  
18008 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)  
18009 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%\* U+2273  
18010 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)  
18011 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%\* U+2276  
18012 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)  
18013 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%\* U+2277  
18014 % U+227A PRECEDES; precedes; \prec (LaTeX)  
18015 \DeclareTextCommand{\textprec}{PU}{\9042\172}%\* U+227A  
18016 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)  
18017 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%\* U+227B  
18018 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)  
18019 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%\* U+227C  
18020 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)  
18021 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%\* U+227D  
18022 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)  
18023 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%\* U+227E  
18024 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)  
18025 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%\* U+227F  
18026 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)  
18027 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%\* U+2280  
18028 % U+2281 DOES NOT SUCCEED; notsucceeds; \nsucc (AmS)  
18029 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%\* U+2281  
18030 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)  
18031 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%\* U+2282  
18032 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)  
18033 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%\* U+2283



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18034 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)
18035 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284
18036 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)
18037 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
18038 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)
18039 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%* U+2286
18040 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)
18041 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%* U+2287
18042 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)
18043 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%* U+2288
18044 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)
18045 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%* U+2289
18046 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subsetneq (AmS)
18047 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
18048 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supsetneq (AmS)
18049 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
18050 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)
18051 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
18052 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
18053 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
18054 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
18055 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
18056 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
18057 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
18058 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseteq (LaTeX)
18059 \DeclareTextCommand{\textsqsubseteq}{PU}{\9042\221}%* U+2291
18060 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)
18061 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%* U+2292
18062 % U+2293 SQUARE CAP; \sqcap (LaTeX)
18063 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18064 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18065 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18066 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18067 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18068 %* \textoplus -> \varoplus (stmaryrd)
18069 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18070 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18071 %* \textominus -> \varominus (stmaryrd)
18072 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18073 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18074 %* \textotimes -> \varotimes (stmaryrd)
18075 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18076 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18077 %* \textoslash -> \varoslash (stmaryrd)
18078 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18079 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18080 %* \textodot -> \varodot (stmaryrd)
18081 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18082 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18083 %* \textcircledcirc -> \ocirc (mathabx)
18084 %* \textcircledcirc -> \varocircle (stmaryrd)
18085 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18086 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18087 %* \textcircledast -> \varoast (stmaryrd)
18088 %* \textcircledast -> \oasterisk (mathabx)

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18089 % U+229D CIRCLED DASH; \circleddash (AmS)
18090 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18091 % U+229E SQUARED PLUS; \boxplus (AmS)
18092 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18093 % U+229F SQUARED MINUS; \boxminus (AmS)
18094 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18095 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18096 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
18097 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18098 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18099 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18100 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18101 %* \textvdash -> \rightvdash (MnSymbol)
18102 % U+22A3 LEFT TACK; tackleft; \dashv (LaTeX)
18103 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18104 %* \textdashv -> \leftvdash (MnSymbol)
18105 % U+22A4 DOWN TACK (=top); tackdown; \top (LaTeX)
18106 \DeclareTextCommand{\texttop}{PU}{\9042\244}%* U+22A4
18107 %* \texttop -> \downvdash (MnSymbol)
18108 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18109 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18110 % U+22A8 TRUE; \vDash (AmS)
18111 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18112 %* \textvDash -> \models (LaTeX)
18113 %* \textvDash -> \rightmodels (MnSymbol)
18114 \DeclareTextCommand{\textmodels}{PU}{\textvDash}%*
18115 % U+22A9 FORCES; \Vdash (AmS)
18116 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18117 %* \textVdash -> \rightVdash (MnSymbol)
18118 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18119 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18120 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18121 % \VDash (mathabx)
18122 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18123 %* \textVDash -> \rightModels (MnSymbol)
18124 % U+22AC DOES NOT PROVE; \nvdash (AmS)
18125 \DeclareTextCommand{\textnvdash}{PU}{\9042\254}%* U+22AC
18126 % U+22AD NOT TRUE; \nvDash (AmS)
18127 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%* U+22AD
18128 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
18129 % STILE; \nVDash (AmS)
18129 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18130 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18131 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18132 %* \textlhd -> \lessclosed (MnSymbol)
18133 %* \textlhd -> \triangleleft (AmS)
18134 %* \textlhd -> \vartriangleleft (AmS)
18135 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18136 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18137 %* \textrhd -> \gtrclosed (MnSymbol)
18138 %* \textrhd -> \triangleright (AmS)
18139 %* \textrhd -> \vartriangleright (AmS)
18140 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18141 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18142 %* \textunlhd -> \leqclosed (MnSymbol)
18143 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
18144 % texsym, ...)

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18144 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18145 %* \textunrhd -> \gtrclosed (MnSymbol)
18146 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18147 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18148 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18149 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18150 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18151 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
18152 % U+22BB XOR; \veebar (AmS)
18153 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
18154 % U+22BC NAND; \barwedge (mathabx)
18155 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
18156 % U+22C6 STAR OPERATOR; \star (LaTeX)
18157 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
18158 % U+22C7 DIVISION TIMES; \divideontimes (AmS)
18159 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7
18160 % U+22C8 BOWTIE; \bowtie (LaTeX)
18161 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
18162 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
18163 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
18164 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
18165 % \rtimes (AmS)
18166 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
18167 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
18168 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
18169 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
18170 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
18171 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
18172 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
18173 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
18174 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
18175 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
18176 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
18177 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
18178 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
18179 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
18180 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
18181 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
18182 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1
18183 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
18184 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
18185 %* \textCap -> \doublecap (mathabx)
18186 % U+22D3 DOUBLE UNION; \Cup (AmS)
18187 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
18188 %* \textCup -> \doublecup (mathabx)
18189 % U+22D4 PITCHFORK; \pitchfork (mathabx)
18190 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4
18191 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)
18192 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%* U+22D6
18193 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)
18194 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%* U+22D7
18195 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)
18196 \DeclareTextCommand{\textlll}{PU}{\9042\330}%* U+22D8
18197 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)
18198 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9
18199 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;
18200 % \lesseqgtr (AmS)

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18201 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA
18202 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterqualorless;
18203 % \gtreqless (AmS)
18204 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%* U+22DB
18205 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
18206 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
18207 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)
18208 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
18209 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
18210 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
18211 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
18212 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
18213 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-
      fonts/pxfonts)
18214 \DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%* U+22E2
18215 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-
      fonts/pxfonts)
18216 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
18217 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
18218 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
18219 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
18220 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
      abx)
18221 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
18222 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
18223 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
18224 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
18225 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
18226 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
18227 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precsim (AmS)
18228 \DeclareTextCommand{\textprecsim}{PU}{\9042\350}%* U+22E8
18229 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succsim (AmS)
18230 \DeclareTextCommand{\textsuccsim}{PU}{\9042\351}%* U+22E9
18231 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
18232 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
18233 %* \textntriangleleft -> \nlessclosed (MnSymbol)
18234 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriang-
      leright (AmS)
18235 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB
18236 %* \textntriangleright -> \ngtrclosed (MnSymbol)
18237 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
18238 % \ntrianglelefteq (AmS)
18239 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%* U+22EC
18240 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
18241 % \ntrianglerighteq (AmS)
18242 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%* U+22ED
18243 %* \textntrianglerighteq -> textngeqclosed
18244 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)
18245 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%* U+22EE
18246 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)
18247 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%* U+22EF
18248 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)
18249 \DeclareTextCommand{\textudots}{PU}{\9042\360}%* U+22F0
18250 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)
18251 \DeclareTextCommand{\textddots}{PU}{\9042\361}%* U+22F1
18252 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)
18253 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%* U+22F6

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## 50.2.22 Miscellaneous Technical: U+2300 to U+23FF

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18254 % U+2300 DIAMETER SIGN; \diameter (mathabx)
18255 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%* U+2300
18256 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)
18257 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%* U+2310
18258 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)
18259 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%* U+2319
18260 % U+231A WATCH; \clock (wasysym)
18261 \DeclareTextCommand{\textclock}{PU}{\9043\032}%* U+231A
18262 %* \textclock -> \Clocklogo (marvosym)
18263 % U+231C TOP LEFT CORNER; \ulcorner (AmS)
18264 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%* U+231C
18265 % U+231D TOP RIGHT CORNER; \urcorner (AmS)
18266 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%* U+231D
18267 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)
18268 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%* U+231E
18269 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)
18270 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%* U+231F
18271 % U+2322 FROWN; \frown (LaTeX)
18272 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%* U+2322
18273 % U+2323 SMILE; \smile (LaTeX)
18274 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%* U+2323
18275 % U+2328 KEYBOARD; \Keyboard (marvosym)
18276 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%* U+2328
18277 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \langle (LaTeX)
18278 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
18279 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)
18280 \DeclareTextCommand{\textrightangle}{PU}{\9043\052}%* U+232A
18281 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
18282 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
18283 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
18284 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
18285 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
18286 % \notbackslash (wasysym)
18287 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340
18288 % U+2341 APL FUNCTIONAL SYMBOL QUAD SLASH; \boxslash (mathabx)
18289 \DeclareTextCommand{\textboxslash}{PU}{\9043\101}%* U+2341
18290 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxback-
      slash (mathabx)
18291 \DeclareTextCommand{\textbackslash}{PU}{\9043\102}%* U+2342
18292 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;
18293 % \APLleftarrowbox (wasysym)
18294 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%* U+2347
18295 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;
18296 % \APLrightarrowbox (wasysym)
18297 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%* U+2348
18298 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLu-
      parrowbox (wasysym)
18299 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%* U+2350
18300 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;
18301 % \APLdownarrowbox (wasysym)
18302 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%* U+2357
18303 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;
18304 % \APLinput (wasysym)
18305 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%* U+235E
18306 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)
18307 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%* U+2370

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### 50.2.23 Control Pictures: U+2400 to U+243F

18308 % U+2422 BLANK SYMBOL  
18309 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
18310 % U+2423 OPEN BOX; blank  
18311 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

### 50.2.24 Optical Character Recognition: U+2440 to U+245F

18312 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)  
18313 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%\* U+244A  
18314 %\* \textbbslash -> \varparalelinv (txfonts/pxfonts)

### 50.2.25 Enclosed Alphanumerics: U+2460 to U+24FF

18315 % U+2460 CIRCLED DIGIT ONE; onecircle  
18316 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
18317 % U+2461 CIRCLED DIGIT TWO; twocircle  
18318 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
18319 % U+2462 CIRCLED DIGIT THREE; threecircle  
18320 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
18321 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
18322 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
18323 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
18324 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
18325 % U+2465 CIRCLED DIGIT SIX; sixcircle  
18326 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
18327 % U+2466 CIRCLED DIGIT SEVEN; sevendigit  
18328 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
18329 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
18330 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
18331 % U+2468 CIRCLED DIGIT NINE; ninecircle  
18332 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
18333 % U+2469 CIRCLED NUMBER TEN; tencircle  
18334 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
18335 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
18336 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
18337 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
18338 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
18339 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
18340 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
18341 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
18342 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
18343 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
18344 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
18345 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
18346 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
18347 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
18348 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
18349 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
18350 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
18351 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
18352 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
18353 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
18354 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
18355 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
18356 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
18357 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
18358 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
18359 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle

18360 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
18361 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
18362 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
18363 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
18364 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
18365 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
18366 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
18367 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
18368 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
18369 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
18370 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
18371 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
18372 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
18373 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
18374 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
18375 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
18376 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
18377 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
18378 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
18379 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
18380 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
18381 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
18382 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
18383 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
18384 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
18385 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
18386 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
18387 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
18388 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
18389 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
18390 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
18391 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
18392 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
18393 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
18394 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
18395 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
18396 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
18397 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
18398 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
18399 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
18400 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
18401 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
18402 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
18403 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
18404 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
18405 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
18406 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
18407 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
18408 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
18409 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
18410 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
18411 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
18412 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
18413 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
18414 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
18415 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
18416 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4

18417 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 18418 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 18419 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 18420 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 18421 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 18422 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 18423 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 18424 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 18425 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 18426 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 18427 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 18428 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 18429 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 18430 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 18431 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 18432 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 18433 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 18434 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 18435 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 18436 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 18437 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 18438 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 18439 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 18440 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 18441 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 18442 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 18443 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 18444 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 18445 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 18446 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 18447 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 18448 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 18449 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 18450 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 18451 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 18452 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 18453 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 18454 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 18455 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 18456 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 18457 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 18458 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 18459 % U+24EA CIRCLED DIGIT ZERO  
 18460 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

## 50.2.26 Geometric Shapes: U+25A0 to U+25FF

18461 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;  
 18462 % \bigtriangleup (LaTeX)  
 18463 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%\* U+25B3  
 18464 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-  
 18465 % whiterightpointingtriangle; \triangleright (LaTeX)  
 18466 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%\* U+25B7  
 18467 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-  
 18468 % \bigtriangledown (LaTeX)  
 18469 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%\* U+25BD



18470 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain restriction);  
18471 % \whiteleftpointingtriangle; \triangleleft (LaTeX)  
18472 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%\* U+25C1  
18473 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)  
18474 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%\* U+25C7  
18475 % U+25CA LOZENGE; lozenge; \lozenge (AmS)  
18476 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%\* U+25CA  
18477 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
18478 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%\* U+25E6  
18479 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;  
18480 % \boxbar (stmaryrd)  
18481 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%\* U+25EB  
18482 % U+25EF LARGE CIRCLE; largecircle  
18483 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%\* U+25EF  
18484 %

### 50.2.27 Miscellaneous Symbols: U+2600 to U+26FF

18485 % U+2601 CLOUD; \Cloud (ifsym)  
18486 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%\* U+2601  
18487 % U+2605 BLACK STAR; \FiveStar (bbding)  
18488 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%\* U+2605  
18489 % U+2606 WHITE STAR; \FiveStarOpen (bbding)  
18490 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%\* U+2606  
18491 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)  
18492 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%\* U+260E  
18493 %\* \textPhone -> \Telefon (marvosym)  
18494 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)  
18495 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%\* U+2611  
18496 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)  
18497 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%\* U+2612  
18498 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)  
18499 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%\* U+2615  
18500 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)  
18501 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%\* U+261A  
18502 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)  
18503 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%\* U+261B  
18504 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)  
18505 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%\* U+261C  
18506 %\* \textHandLeft -> \rightpointleft (fourier)  
18507 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)  
18508 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%\* U+261E  
18509 %\* \textHandRight -> \leftpointright (fourier)  
18510 %\* \textHandRight -> \PointingHand (marvosym)  
18511 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)  
18512 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%\* U+2622  
18513 %\* \textRadioactivity -> \Radiation (ifsym)  
18514 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)  
18515 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%\* U+2623  
18516 % U+2625 ANKH; \Ankh (marvosym)  
18517 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%\* U+2625  
18518 % U+262F YIN YANG; \Yinyang (marvosym)  
18519 \DeclareTextCommand{\textYinyang}{PU}{\9046\057}%\* U+262F  
18520 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)  
18521 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%\* U+2639  
18522 %\* \textfrownie -> \Frowny (marvosym)  
18523 % U+263A WHITE SMILING FACE; \smiley (wasysym)

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18524 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%* U+263A
18525 %* \textsmiley -> \Smiley (marvosym)
18526 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)
18527 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%* U+263B
18528 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)
18529 \DeclareTextCommand{\textsun}{PU}{\9046\074}%* U+263C
18530 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)
18531 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%* U+263D
18532 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)
18533 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%* U+263E
18534 % U+263F MERCURY; \mercury (wasysym)
18535 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%* U+263F
18536 %* \textmercury -> \Mercury (marvosym)
18537 % U+2640 FEMALE SIGN; female; \female (wasysym)
18538 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640
18539 %* \textPUfemale -> \textfemale (tipx)
18540 %* \textPUfemale -> \female (wasysym)
18541 %* \textPUfemale -> \venus (wasysym)
18542 %* \textPUfemale -> \Venus (marvosym)
18543 % U+2641 EARTH; \earth (wasysym)
18544 \DeclareTextCommand{\textearth}{PU}{\9046\101}%* U+2641
18545 %* \textearth -> \Earth (marvosym)
18546 % U+2642 MALE SIGN; male, mars; \male (wasysym)
18547 \DeclareTextCommand{\textmale}{PU}{\9046\102}%* U+2642
18548 %* \textmale -> \mars (wasysym)
18549 %* \textmale -> \Mars (marvosym)
18550 % U+2643 JUPITER; \jupiter (wasysym)
18551 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%* U+2643
18552 %* \textjupiter -> \Jupiter (marvosym)
18553 % U+2644 SATURN; \saturn (wasysym)
18554 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%* U+2644
18555 %* \textsaturn -> \Saturn (marvosym)
18556 % U+2645 URANUS; \uranus (wasysym)
18557 %* \texturanus -> \Uranus (marvosym)
18558 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%* U+2645
18559 % U+2646 NEPTUNE; \neptune (wasysym)
18560 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%* U+2646
18561 %* \textneptune -> \Neptune (marvosym)
18562 % U+2647 PLUTO; \pluto (wasysym)
18563 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%* U+2647
18564 %* \textpluto -> \Pluto (marvosym)
18565 % U+2648 ARIES; \aries (wasysym)
18566 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
18567 %* \textaries -> \Aries (marvosym)
18568 % U+2649 TAURUS; \taurus (wasysym)
18569 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
18570 %* \texttaurus -> \Taurus (marvosym)
18571 % U+264A GEMINI; \gemini (wasysym)
18572 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
18573 %* \textgemini -> \Gemini (marvosym)
18574 % U+264B CANCER; \cancer (wasysym)
18575 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
18576 %* \textcancer -> \Cancer (marvosym)
18577 % U+264C LEO; \leo (wasysym)
18578 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
18579 %* \textleo -> \Leo (marvosym)
18580 % U+264D VIRGO; \virgo (wasysym)

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18581 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
18582 %* \textvirgo -> \Virgo (marvosym)
18583 % U+264E LIBRA; \libra (wasysym)
18584 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
18585 %* \textlibra -> \Libra (marvosym)
18586 % U+264F SCORPIO; \scorpio (wasysym)
18587 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
18588 %* \textscorpio -> \Scorpio (marvosym)
18589 % U+2650 SAGITTARIUS; \sagittarius (wasysym)
18590 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
18591 %* \textsagittarius -> \Sagittarius (marvosym)
18592 % U+2651 CAPRICORN; \capricorn (wasysym)
18593 \DeclareTextCommand{\textcapricorn}{PU}{\9046\121}%* U+2651
18594 %* \textcapricorn -> \Capricorn (marvosym)
18595 % U+2652 AQUARIUS; \aquarius (wasysym)
18596 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
18597 %* \textaquarius -> \Aquarius (marvosym)
18598 % U+2653 PISCES; \pisces (wasysym)
18599 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
18600 %* \textpisces -> \Pisces (marvosym)
18601 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
18602 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
18603 %* \textspadesuitblack -> \spadesuit (MnSymbol)
18604 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
18605 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
18606 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
18607 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
18608 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
18609 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
18610 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
18611 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
18612 %* \textclubsuitblack -> \clubsuit (MnSymbol)
18613 % U+2664 WHITE SPADE SUIT; spadesuitwhite
18614 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
18615 % U+2665 BLACK HEART SUIT; heartsuitblack, heart
18616 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665
18617 % U+2666 BLACK DIAMOND SUIT; diamond
18618 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666
18619 % U+2667 WHITE CLUB SUIT; clubsuitwhite
18620 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667
18621 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)
18622 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%* U+2669
18623 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)
18624 %* \textmusicalnote -> \eighthnote (wasysym, arev)
18625 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
18626 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)
18627 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%* U+266B
18628 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-
      note (arev)
18629 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%* U+266C
18630 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)
18631 \DeclareTextCommand{\textflat}{PU}{\9046\155}%* U+266D
18632 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)
18633 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%* U+266E
18634 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)
18635 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%* U+266F
18636 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)

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18637 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%\* U+2672  
 18638 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)  
 18639 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%\* U+267F  
 18640 % U+2691 BLACK FLAG; \Flag (ifsym)  
 18641 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%\* U+2691  
 18642 %\* \textFlag -> \VarFlag (ifsym)  
 18643 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)  
 18644 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%\* U+2694  
 18645 %\* \textdsmilitary -> \textxswup (fourier)  
 18646 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)  
 18647 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%\* U+2695  
 18648 % U+2696 SCALES; \dsjuridical (dictsym)  
 18649 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%\* U+2696  
 18650 % U+2697 ALEMBIC; \dschemical (dictsym)  
 18651 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%\* U+2697  
 18652 % U+2698 FLOWER; \dsbiological (dictsym)  
 18653 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%\* U+2698  
 18654 % U+269A STAFF OF HERMES; \dscommercial (dictsym)  
 18655 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%\* U+269A  
 18656 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)  
 18657 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%\* U+269D  
 18658 % U+26A0 WARNING SIGN; \danger (fourier)  
 18659 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%\* U+26A0  
 18660 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)  
 18661 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%\* U+26A2  
 18662 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)  
 18663 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%\* U+26A3  
 18664 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (marvosym)  
 18665 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%\* U+26A4  
 18666 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)  
 18667 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%\* U+26A5  
 18668 % U+26AD MARRIAGE SYMBOL  
 18669 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 18670 % U+26AE DIVORCE SYMBOL  
 18671 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE  
 18672 % U+26B2 NEUTER; \textunconfemale (tipx)  
 18673 \DeclareTextCommand{\textPUunconfemale}{PU}{\9046\262}% U+26B2  
 18674 %\* \textPUunconfemale -> \textunconfemale (tipx)  
 18675 % U+26BD SOCCER BALL; \Football (marvosym)  
 18676 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD  
 18677 %\* \textSoccerBall -> \Football (marvosym)  
 18678 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)  
 18679 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%\* U+26C5  
 18680 % U+26C6 RAIN; \Rain (ifsym)  
 18681 \DeclareTextCommand{\textRain}{PU}{\9046\306}%\* U+26C6  
 18682 % U+26D4 NO ENTRY; \noway (fourier)  
 18683 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%\* U+26D4  
 18684 % U+26F0 MOUNTAIN; \Mountain (ifsym)  
 18685 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%\* U+26F0  
 18686 % U+26FA TENT; \Tent (ifsym)  
 18687 \DeclareTextCommand{\textTent}{PU}{\9046\372}%\* U+26FA

#### 50.2.28 Dingbats: U+2700 to U+27BF

18688 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bbding)  
 18689 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701  
 18690 %\* \textScissorRightBrokenBottom -> \Cutright (marvosym)

18691 % U+2702 BLACK SCISSORS; \ScissorRight (bding)  
18692 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%\* U+2702  
18693 %\* \textScissorRight -> \Rightsscissors (marvosym)  
18694 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bding)  
18695 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%\* U+2703  
18696 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bding)  
18697 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%\* U+2704  
18698 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bding)  
18699 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%\* U+2706  
18700 % U+2707 TAPE DRIVE; \Tape (bding)  
18701 \DeclareTextCommand{\textTape}{PU}{\9047\007}%\* U+2707  
18702 % U+2708 AIRPLANE; \Plane (bding)  
18703 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%\* U+2708  
18704 % U+2709 ENVELOPE; \Envelope (bding),  
18705 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%\* U+2709  
18706 %\* \textEnvelope -> \Letter (marvosym)  
18707 % U+270C VICTORY HAND; \Peace (bding)  
18708 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%\* U+270C  
18709 % U+270D WRITING HAND; \Writinghand (marvosym)  
18710 \DeclareTextCommand{\textWritinghand}{PU}{\9047\015}%\* U+270D  
18711 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)  
18712 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%\* U+270E  
18713 % U+270F PENCIL; \PencilRight (bding)  
18714 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%\* U+270F  
18715 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)  
18716 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%\* U+2710  
18717 % U+2711 WHITE NIB; \NibRight (bding)  
18718 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%\* U+2711  
18719 % U+2712 BLACK NIB; \NibSolidRight (bding)  
18720 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%\* U+2712  
18721 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)  
18722 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%\* U+2713  
18723 %\* \textCheckmark -> \checkmark (MnSymbol)  
18724 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)  
18725 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%\* U+2714  
18726 % U+2715 MULTIPLICATION X; \XSolid (bding)  
18727 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%\* U+2715  
18728 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)  
18729 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%\* U+2716  
18730 % U+2717 BALLOT X; \XSolidBrush (bding)  
18731 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%\* U+2717  
18732 % U+2719 OUTLINED GREEK CROSS; \CrossOutline (bding)  
18733 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\031}%\* U+2719  
18734 % U+271A HEAVY GREEK CROSS; \Plus (bding)  
18735 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%\* U+271A  
18736 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)  
18737 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%\* U+271B  
18738 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)  
18739 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%\* U+271C  
18740 % U+271D LATIN CROSS; \Cross (bding)  
18741 \DeclareTextCommand{\textCross}{PU}{\9047\035}%\* U+271D  
18742 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)  
18743 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%\* U+271E  
18744 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)  
18745 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%\* U+271F  
18746 % U+2720 MALTESE CROSS; \CrossMaltese (bding)  
18747 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%\* U+2720

18748 % U+2721 STAR OF DAVID; \DavidStar (bbling)  
18749 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%\* U+2721  
18750 %\* \textDavidStar -> \davidstar (wasysym)  
18751 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bbling)  
18752 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%\* U+2722  
18753 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bbling)  
18754 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%\* U+2723  
18755 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bbling)  
18756 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%\* U+2724  
18757 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bbling)  
18758 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%\* U+2725  
18759 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bbling)  
18760 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%\* U+2726  
18761 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bbling)  
18762 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%\* U+2727  
18763 % U+2729 STRESS OUTLINED WHITE STAR; \FiveStarOpen (bbling)  
18764 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9047\051}%\* U+2729  
18765 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bbling)  
18766 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%\* U+272A  
18767 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bbling)  
18768 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%\* U+272B  
18769 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bbling)  
18770 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%\* U+272C  
18771 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bbling)  
18772 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%\* U+272D  
18773 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bbling)  
18774 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%\* U+272E  
18775 % U+272F PINWHEEL STAR; \FiveStarConvex (bbling)  
18776 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%\* U+272F  
18777 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bbling)  
18778 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%\* U+2730  
18779 % U+2731 HEAVY ASTERISK; \AsteriskBold (bbling)  
18780 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%\* U+2731  
18781 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bbling)  
18782 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%\* U+2732  
18783 % U+2734 EIGHT POINTED BLACK STAR; \EightStar (bbling)  
18784 \DeclareTextCommand{\textEightStar}{PU}{\9047\064}%\* U+2734  
18785 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bbling)  
18786 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%\* U+2735  
18787 % U+2736 SIX POINTED BLACK STAR; \SixStar (bbling)  
18788 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%\* U+2736  
18789 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bbling)  
18790 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%\* U+2737  
18791 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bbling)  
18792 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%\* U+2738  
18793 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bbling)  
18794 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%\* U+2739  
18795 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bbling)  
18796 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%\* U+273A  
18797 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bbling)  
18798 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%\* U+273B  
18799 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;  
18800 % \SixFlowerOpenCenter (bbling)

18801 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%\* U+273C  
18802 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)  
18803 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%\* U+273D  
18804 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAl-  
ternate (bding)  
18805 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%\* U+273E  
18806 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)  
18807 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%\* U+273F  
18808 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)  
18809 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%\* U+2740  
18810 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlow-  
erPetal (bding)  
18811 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%\* U+2741  
18812 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \Sunshi-  
neOpenCircled (bding)  
18813 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%\* U+2742  
18814 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlow-  
erAltPetal (bding)  
18815 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%\* U+2743  
18816 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)  
18817 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%\* U+2744  
18818 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)  
18819 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%\* U+2745  
18820 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)  
18821 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%\* U+2746  
18822 % U+2747 SPARKLE; \Sparkle (bding)  
18823 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%\* U+2747  
18824 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)  
18825 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%\* U+2748  
18826 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)  
18827 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%\* U+2749  
18828 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
18829 % \EightFlowerPetalRemoved (bding)  
18830 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%\* U+274A  
18831 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
18832 % \EightAsterisk (bding)  
18833 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%\* U+274B  
18834 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)  
18835 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%\* U+274D  
18836 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;  
18837 % \SquareShadowBottomRight (bding)  
18838 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%\* U+274F  
18839 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;  
18840 % \SquareShadowTopRight (bding)  
18841 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%\* U+2750  
18842 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;  
18843 % \SquareCastShadowBottomRight (bding)  
18844 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%\* U+2751  
18845 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;  
18846 % \SquareCastShadowTopRight (bding)  
18847 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%\* U+2752  
18848 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (b-  
ding)  
18849 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%\* U+2756  
18850 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)  
18851 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%\* U+2758  
18852 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)

```

18853 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%* U+2759
18854 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bbding)
18855 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%* U+275A

```

## 50.2.29 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

```

18856 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)
18857 \DeclareTextCommand{\textperp}{PU}{\9047\302}%* U+27C2
18858 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)
18859 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%* U+27C7
18860 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)
18861 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%* U+27D1
18862 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)
18863 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%* U+27DC
18864 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
18865 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%* U+27E6
18866 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
18867 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%* U+27E7

```

## 50.2.30 Supplemental Arrows-A: U+27F0 to U+27FF

```

18868 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;
18869 % \circlearrowleft (AmS)
18870 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%* U+27F2
18871 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)
18872 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%* U+27F3
18873 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)
18874 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%* U+27F5
18875 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)
18876 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%* U+27F6
18877 % U+27F7 LONG LEFT RIGHT ARROW; \longlefttrightarrow (AmS)
18878 \DeclareTextCommand{\textlonglefttrightarrow}{PU}{\9047\367}%* U+27F7
18879 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)
18880 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%* U+27F8
18881 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Longrightarrow (AmS)
18882 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%* U+27F9
18883 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longlefttrightarrow (AmS)
18884 \DeclareTextCommand{\textLonglefttrightarrow}{PU}{\9047\372}%* U+27FA
18885 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)
18886 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%* U+27FC
18887 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmaps-
      from (stmaryrd)
18888 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%* U+27FD
18889 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmap-
      sto (stmaryrd)
18890 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%* U+27FE

```

## 50.2.31 Supplemental Arrows-B

```

18891 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSym-
      bol)
18892 \DeclareTextCommand{\textnwsearrow}{PU}{\051\041}%* U+2921
18893 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSym-
      bol)
18894 \DeclareTextCommand{\textneswarrow}{PU}{\051\042}%* U+2922
18895 % U+2923 NORTH WEST ARROW WITH HOOK; \hooknwarrow (MnSymbol)
18896 \DeclareTextCommand{\textlnwarrow}{PU}{\051\043}%* U+2923
18897 % U+2924 NORTH EAST ARROW WITH HOOK; \hooknearrow (MnSymbol)
18898 \DeclareTextCommand{\textrnearrow}{PU}{\051\044}%* U+2924
18899 % U+2925 SOUTH EAST ARROW WITH HOOK; \hooksearrow (MnSymbol)

```



```

18900 \DeclareTextCommand{\textlhooksearrow}{PU}{\051\045}%* U+2925
18901 % U+2926 SOUTH WEST ARROW WITH HOOK; \rhookswarrow (MnSymbol)
18902 \DeclareTextCommand{\textrhookswarrow}{PU}{\051\046}%* U+2926
18903 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;
18904 % \rcurvearrowne (MnSymbol)
18905 \DeclareTextCommand{\textrcurvearrowne}{PU}{\051\064}%* U+2934
18906 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWN-
      WARDS;
18907 % \lcurvearrowse (MnSymbol)
18908 \DeclareTextCommand{\textlcurvearrowse}{PU}{\051\065}%* U+2935
18909 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFT-
      WARDS;
18910 % \lcurvearrowsw (MnSymbol)
18911 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\051\066}%* U+2936
18912 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHT-
      WARDS;
18913 % \rcurvearrowse (MnSymbol)
18914 \DeclareTextCommand{\textrcurvearrowse}{PU}{\051\067}%* U+2937
18915 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (Mn-
      Symbol)
18916 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\051\070}%* U+2938
18917 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;
18918 % \rcurvearrowdown (MnSymbol)
18919 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\051\071}%* U+2939
18920 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSym-
      bol)
18921 \DeclareTextCommand{\textrcurvearrowleft}{PU}{\051\072}%* U+293A
18922 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;
18923 % \rcurvearrowright (MnSymbol)
18924 \DeclareTextCommand{\textrcurvearrowright}{PU}{\051\073}%* U+293B
18925 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrighthar-
      poon (mathabx)
18926 \DeclareTextCommand{\textleftrightharpoon}{PU}{\051\112}%* U+294A
18927 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightlefthar-
      poon (mathabx)
18928 \DeclareTextCommand{\textrightleftharpoon}{PU}{\051\113}%* U+294B
18929 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;
18930 % \updownharpoonrightleft (MnSymbol)
18931 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\051\114}%* U+294C
18932 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;
18933 % \updownharpoonleftright (MnSymbol)
18934 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\051\115}%* U+294D
18935 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS
18936 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)
18937 \DeclareTextCommand{\textleftleftharpoons}{PU}{\051\142}%* U+2962
18938 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS
18939 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)
18940 \DeclareTextCommand{\textupupharpoons}{PU}{\051\143}%* U+2963
18941 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-
      WARDS HARPOON
18942 % WITH BARB DOWN; \rightrightarpoons (mathabx)
18943 \DeclareTextCommand{\textrightarpoons}{PU}{\051\144}%* U+2964
18944 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
      WARDS HARPOON
18945 % WITH BARB RIGHT; \downdownharpoons (mathabx)
18946 \DeclareTextCommand{\textdowndownharpoons}{PU}{\051\145}%* U+2965
18947 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;

```

18948 % \leftbarharpoon (mathabx)  
 18949 \DeclareTextCommand{\textleftbarharpoon}{PU}{\051\152}%\* U+296A  
 18950 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW  
 18951 % LONG DASH; \barleftharpoon (mathabx)  
 18952 \DeclareTextCommand{\textbarleftharpoon}{PU}{\051\153}%\* U+196B  
 18953 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE  
 18954 % LONG DASH; \rightbarharpoon (mathabx)  
 18955 \DeclareTextCommand{\textrightbarharpoon}{PU}{\051\154}%\* U+296C  
 18956 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW  
 18957 % LONG DASH; \barrightharpoon (mathabx)  
 18958 \DeclareTextCommand{\textbarrightharpoon}{PU}{\051\155}%\* U+296D  
 18959 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 18960 % WITH BARB RIGHT; \updownharpoons (mathabx)  
 18961 \DeclareTextCommand{\textupdownharpoons}{PU}{\051\156}%\* U+296E  
 18962 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-  
 WARDS HARPOON  
 18963 % WITH BARB RIGHT; \downupharpoons (mathabx)  
 18964 \DeclareTextCommand{\textdownupharpoons}{PU}{\051\157}%\* U+296F

### 50.2.32 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

18965 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)  
 18966 \DeclareTextCommand{\textobar}{PU}{\9051\266}%\* U+29B6  
 18967 %\* \textobar -> \textvarobar (stmaryrd)  
 18968 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)  
 18969 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%\* U+29B8  
 18970 %\* \textobslash -> \circledbslash (txfonts/pxfonts)  
 18971 %\* \textobslash -> \obackslash (mathabx)  
 18972 %\* \textobslash -> \varobslash (stmaryrd)  
 18973 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF  
 18974 % DIVIDED BY VERTICAL BAR; \obot (mathabx)  
 18975 \DeclareTextCommand{\textobot}{PU}{\9051\272}%\* U+29BA  
 18976 %\* \textobot -> \odplus (ulsy)  
 18977 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)  
 18978 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%\* U+29C0  
 18979 %\* \textolessthan -> \varolessthan (stmaryrd)  
 18980 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)  
 18981 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%\* U+29C1  
 18982 %\* \textogreaterthan -> \varogreaterthan (stmaryrd)  
 18983 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (stmaryrd)  
 18984 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%\* U+29C4  
 18985 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)  
 18986 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%\* U+29C5  
 18987 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)  
 18988 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%\* U+29C6  
 18989 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)  
 18990 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%\* U+29C7  
 18991 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)  
 18992 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%\* U+29C8  
 18993 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)  
 18994 \DeclareTextCommand{\textmultimap}{PU}{\9051\337}%\* U+29DF  
 18995 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)  
 18996 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%\* U+29E2

### 50.2.33 Supplemental Mathematical Operators: U+2A00 to U+2AFF

18997 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)  
 18998 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%\* U+2A04

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18999 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)
19000 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%* U+2A07
19001 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)
19002 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%* U+2A08
19003 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,
19004 %   pxfonts, wasysym)
19005 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%* U+2A1D
19006 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)
19007 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%* U+2A22
19008 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)
19009 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%* U+2A2A
19010 %* \textminusdot -> \divdot (mathabx)
19011 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (math-
19012 %   abx)
19012 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%* U+2A30
19013 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;
19014 %   \dtimes (mathdesign)
19015 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%* U+2A32
19016 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)
19017 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%* U+2A38
19018 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)
19019 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%* U+2A3C
19020 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)
19021 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%* U+2A4E
19022 %* \textsqdoublecap -> \doublesqcap (MnSymbol)
19023 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)
19024 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%* U+2A40
19025 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)
19026 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%* U+2A4F
19027 %* \textsqdoublecup -> \doublesqcup (MnSymbol)
19028 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)
19029 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%* U+2A55
19030 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)
19031 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%* U+2A56
19032 %* \textdoublevee -> \merge (stmaryrd)
19033 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;
19034 %   \doublebarwedge (AmS)
19035 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%* U+2A5E
19036 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;
19037 %   \veedoublebar (mahtabx)
19038 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%* U+2A63
19039 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)
19040 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%* U+2A66
19041 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)
19042 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%* U+2A74
19043 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)
19044 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%* U+2A7D
19045 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)
19046 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%* U+2A7E
19047 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)
19048 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%* U+2A85
19049 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)
19050 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%* U+2A86
19051 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)
19052 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%* U+2A87
19053 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;
19054 %   \gneq (AmS)

```

```

19055 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%* U+2A88
19056 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)
19057 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%* U+2A89
19058 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)
19059 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%* U+2A8A
19060 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-THAN;
19061 % \lesseqqgtr (AmS)
19062 \DeclareTextCommand{\textlesseqqgtr}{PU}{\9052\213}%* U+2A8B
19063 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-THAN;
19064 % \gtreqqless (AmS)
19065 \DeclareTextCommand{\textgtreqqless}{PU}{\9052\214}%* U+2A8C
19066 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)
19067 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%* U+2A95
19068 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)
19069 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%* U+2A96
19070 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)
19071 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%* U+2AA6
19072 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)
19073 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%* U+2AA7
19074 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-
    Symbol)
19075 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%* U+2AAF
19076 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-
    Symbol)
19077 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%* U+2AB0
19078 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \prec-
    neq (mathabx)
19079 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%* U+2AB1
19080 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succ-
    neq (mathabx)
19081 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%* U+2AB2
19082 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)
19083 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%* U+2AB3
19084 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)
19085 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%* U+2AB4
19086 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)
19087 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%* U+2AB5
19088 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)
19089 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%* U+2AB6
19090 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)
19091 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%* U+2AB7
19092 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
19093 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
19094 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-
    prox (AmS)
19095 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
19096 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-
    prox (AmS)
19097 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%* U+2ABA
19098 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
19099 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
19100 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)
19101 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
19102 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
19103 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
19104 %* \textdashV -> \leftVdash (MnSymbol)
19105 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)

```

```

19106 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
19107 %* \textDashv -> \leftmodels (MnSymbol)
19108 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;
19109 % \DashV (mathabx)
19110 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%* U+2AE5
19111 %* \textDashV -> \leftModels (MnSymbol)
19112 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)
19113 \DeclareTextCommand{\textupmodels}{PU}{\9052\352}%* U+2AEA
19114 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)
19115 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%* U+2AEB
19116 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)
19117 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%* U+2AEF
19118 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;
19119 % \interleave (stmaryrd)
19120 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%* U+2AF4
19121 % U+2AFD DOUBLE SOLIDUS OPERATOR; \sslash (stmaryrd)
19122 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%* U+2AFD
19123 %* \textsslash -> \varparallel (txfonts\pxfonts)

```

### 50.2.34 Latin Extended-C: U+2C60 to U+2C7F

```

19124 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J
19125 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%* U+2C7C

```

### 50.2.35 Supplemental Punctuation: U+2E00 to U+2E7F

```

19126 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)
19127 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%* U+2E13
19128 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)
19129 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18
19130 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)
19131 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%* U+2E2D

```

### 50.2.36 Modifier Tone Letters: U+A700 to U+A71F

```

19132 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)
19133 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B
19134 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;
19135 % \textdownstep (tipa)
19136 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

```

### 50.2.37 Latin Extended-D: U+A720 to U+A7FF

```

19137 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)
19138 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727
19139 %* \textPUheng -> \textheng (tipx)
19140 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)
19141 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C
19142 %* \textPULhookfour -> \textlhookfour (tipx)
19143 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)
19144 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730
19145 %* \textPUscf -> \textscf (tipx)
19146 % U+A735 LATIN SMALL LETTER AO; \textao lig (tipx)
19147 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735
19148 %* \textPUaolig -> \textao lig (tipx)
19149 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)
19150 \DeclareTextCommand{\textoo}{PU}{\9247\117}%* U+A74F
19151 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT
19152 \DeclareTextCommand{\textcircumlowlow}{PU}{\9247\210}% U+A788

```

### 50.2.38 Alphabetic Presentation Forms: U+FB00 to U+FB4F

19153 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 19154 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 19155 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 19156 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 50.2.39 Musical Symbols: U+1D100 to U+1D1FF

19157 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)  
 19158 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%\* U+1D13B  
 19159 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)  
 19160 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%\* U+1D13C  
 19161 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)  
 19162 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%\* U+1D13D  
 19163 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)  
 19164 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%\* U+1D13E  
 19165 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)  
 19166 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%\* U+1D13F  
 19167 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)  
 19168 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%\* U+1D140  
 19169 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)  
 19170 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%\* U+1D15D  
 19171 %\* \textfullnote -> \Ganz (harmony)  
 19172 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)  
 19173 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%\* U+1D15E  
 19174 %\* \texthalfnote -> \Halb (harmony)  
 19175 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)  
 19176 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%\* U+1D15F  
 19177 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)  
 19178 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%\* U+1D160  
 19179 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)  
 19180 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%\* U+1D161  
 19181 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)  
 19182 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%\* U+1D162

### 50.2.40 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19183 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)  
 19184 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%\* U+1F30D  
 19185 % U+1F469 WOMAN; \Womanface (marvosym)  
 19186 \DeclareTextCommand{\textWomanface}{PU}{\9330\075\9334\151}%\* U+1F469  
 19187 % U+1F525 FIRE; \Fire (ifsym)  
 19188 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%\* U+1F525

### 50.2.41 Transport and Map Symbols: U+1F680 to U+1F6FF

19189 % U+1F6B2 BICYCLE; \Bicycle (marvosym)  
 19190 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%\* U+1F6B2  
 19191 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)  
 19192 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%\* U+1F6B9  
 19193 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)  
 19194 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%\* U+1F6BA

### 50.2.42 Miscellaneous

19195 \DeclareTextCommand{\SS}{PU}{SS}  
 19196 % \textcopyleft (textcomp)  
 19197 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD  
 19198 % \ccnc (ccllicenses)  
 19199 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%\* U+0024 U+20E0  
 19200 % \ccnd (ccllicenses)  
 19201 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%\* U+003D U+20DD

```

19202 % \ccsa (ccllicenses)
19203 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%* U+27F2 U+20DD
19204 % \CircledA (marvosym)
19205 \DeclareTextCommand{\textCircledA}{PU}{A\9040\335}%* U+0041 U+20DD
19206 % \Info (marvosym, china2e)
19207 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\940\336}%* U+1D422 U+20DE

```

### 50.2.43 Aliases

Aliases (german.sty)

```

19208 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
19209 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
19210 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
19211 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
19212 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
19213 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
19214 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
19215 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

19216 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
19217 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
19218 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
19219 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
19220 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
19221 </puenc>

```

## 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

19222 <*puvnenc>
19223 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
19224 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
19225 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
19226 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
19227 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
19228 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
19229 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
19230 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
19231 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
19232 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
19233 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
19234 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF
19235 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
19236 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
19237 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0
19238 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
19239 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
19240 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
19241 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
19242 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}% U+1EB1
19243 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
19244 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
19245 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5
19246 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD
19247 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}% U+1EA7

```

19248 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9  
 19249 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB  
 19250 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
 19251 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
 19252 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
 19253 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB  
 19254 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 19255 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF  
 19256 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7  
 19257 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}% U+1EC1  
 19258 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3  
 19259 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5  
 19260 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 19261 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
 19262 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 19263 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9  
 19264 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 19265 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 19266 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
 19267 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
 19268 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF  
 19269 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 19270 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1  
 19271 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9  
 19272 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}% U+1ED3  
 19273 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5  
 19274 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7  
 19275 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB  
 19276 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3  
 19277 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}% U+1EDD  
 19278 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF  
 19279 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1  
 19280 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 19281 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
 19282 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 19283 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7  
 19284 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 19285 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9  
 19286 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1  
 19287 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}% U+1EEB  
 19288 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED  
 19289 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF  
 19290 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 19291 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 19292 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 19293 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7  
 19294 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9  
 19295 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
 19296 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
 19297 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}% U+00C0  
 19298 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2  
 19299 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
 19300 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE  
 19301 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6  
 19302 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}% U+1EB0  
 19303 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2  
 19304 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4



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19305 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4
19306 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC
19307 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6
19308 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8
19309 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA
19310 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
19311 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8
19312 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}% U+00C8
19313 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA
19314 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
19315 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE
19316 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6
19317 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0
19318 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2
19319 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4
19320 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
19321 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
19322 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}% U+00CC
19323 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8
19324 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
19325 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
19326 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
19327 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}% U+00D2
19328 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE
19329 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
19330 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0
19331 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8
19332 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2
19333 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4
19334 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6
19335 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA
19336 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2
19337 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}% U+1EDC
19338 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE
19339 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0
19340 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
19341 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
19342 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9
19343 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6
19344 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
19345 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8
19346 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
19347 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}% U+1EEA
19348 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
19349 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
19350 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
19351 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
19352 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2
19353 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
19354 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
19355 (/puvnenc)

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## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```
19356 (*puarenc)
```

19357 % U+0621;afii57409;ARABIC LETTER HAMZA  
 19358 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621  
 19359 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE  
 19360 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622  
 19361 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE  
 19362 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623  
 19363 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE  
 19364 \DeclareTextCommand{\wawhamza}{PU}{\86\044} % U+0624  
 19365 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW  
 19366 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625  
 19367 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE  
 19368 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626  
 19369 % U+0627;afii57415;ARABIC LETTER ALEF  
 19370 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627  
 19371 % U+0628;afii57416;ARABIC LETTER BEH  
 19372 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628  
 19373 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA  
 19374 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629  
 19375 % U+062A;afii57418;ARABIC LETTER TEH  
 19376 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A  
 19377 % U+062B;afii57419;ARABIC LETTER THEH  
 19378 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B  
 19379 % U+062C;afii57420;ARABIC LETTER JEEM  
 19380 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C  
 19381 % U+062D;afii57421;ARABIC LETTER HAH  
 19382 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D  
 19383 % U+062E;afii57422;ARABIC LETTER KHAH  
 19384 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E  
 19385 % U+062F;afii57423;ARABIC LETTER DAL  
 19386 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F  
 19387 % U+0630;afii57424;ARABIC LETTER THAL  
 19388 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630  
 19389 % U+0631;afii57425;ARABIC LETTER REH  
 19390 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631  
 19391 % U+0632;afii57426;ARABIC LETTER ZAIN  
 19392 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632  
 19393 % U+0633;afii57427;ARABIC LETTER SEEN  
 19394 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633  
 19395 % U+0634;afii57428;ARABIC LETTER SHEEN  
 19396 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634  
 19397 % U+0635;afii57429;ARABIC LETTER SAD  
 19398 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635  
 19399 % U+0636;afii57430;ARABIC LETTER DAD  
 19400 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636  
 19401 % U+0637;afii57431;ARABIC LETTER TAH  
 19402 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637  
 19403 % U+0638;afii57432;ARABIC LETTER ZAH  
 19404 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638  
 19405 % U+0639;afii57433;ARABIC LETTER AIN  
 19406 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639  
 19407 % U+063A;afii57434;ARABIC LETTER GHAIN  
 19408 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A  
 19409 % U+0640;afii57440;ARABIC TATWEEL  
 19410 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640  
 19411 % U+0641;afii57441;ARABIC LETTER FEH  
 19412 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641  
 19413 % U+0642;afii57442;ARABIC LETTER QAF

19414 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642  
 19415 % U+0643;afii57443;ARABIC LETTER KAF  
 19416 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643  
 19417 % U+0644;afii57444;ARABIC LETTER LAM  
 19418 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644  
 19419 % U+0645;afii57445;ARABIC LETTER MEEM  
 19420 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645  
 19421 % U+0646;afii57446;ARABIC LETTER NOON  
 19422 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646  
 19423 % U+0647;afii57470;ARABIC LETTER HEH  
 19424 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647  
 19425 % U+0648;afii57448;ARABIC LETTER WAW  
 19426 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648  
 19427 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA  
 19428 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649  
 19429 % U+064A;afii57450;ARABIC LETTER YEH  
 19430 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A  
  
 19431 % U+064B;afii57451;ARABIC FATHATAN  
 19432 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B  
 19433 % U+064C;afii57452;ARABIC DAMMATAN  
 19434 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C  
 19435 % U+064D;afii57453;ARABIC KASRATAN  
 19436 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D  
 19437 % U+064E;afii57454;ARABIC FATHA  
 19438 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E  
 19439 % U+064F;afii57455;ARABIC DAMMA  
 19440 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F  
 19441 % U+0650;afii57456;ARABIC KASRA  
 19442 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650  
 19443 % U+0651;afii57457;ARABIC SHADDA  
 19444 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651  
 19445 % U+0652;afii57458;ARABIC SUKUN  
 19446 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652  
  
 Farsi  
 19447 % U+067E ARABIC LETTER PEH; afii57506  
 19448 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E  
 19449 % U+0686 ARABIC LETTER TCHEH; afii57507  
 19450 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686  
 19451 % U+0698 ARABIC LETTER JEH; afii57508  
 19452 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698  
 19453 % U+06A9 ARABIC LETTER KEHEH  
 19454 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9  
 19455 % U+06AF ARABIC LETTER GAF; afii57509  
 19456 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF  
 19457 % U+06CC ARABIC LETTER FARSI YEH  
 19458 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC  
  
 19459 % U+200C ZERO WIDTH NON-JOINER; afii61664  
 19460 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C  
 19461 % U+200D ZERO WIDTH JOINER; afii301  
 19462 \DeclareTextCommand{\noboundary}{PU}{\9040\015}% U+200D  
  
 19463 (/puarenc)  
 19464 (\*psdextra)  
 19465 \Hy@VersionCheck{psdextra.def}  
 19466 \newcommand\*{\psdmapshortnames}{%  
 19467 \let\copyright\textcopyright

19468 \let\twosuperior\texttwosuperior  
 19469 \let\threesuperior\textthreesuperior  
 19470 \let\onesuperior\textonesuperior  
 19471 \let\Thorn\textThorn  
 19472 \let\thorn\textthorn  
 19473 \let\hbar\texthbar  
 19474 \let\hausaB\texthausaB  
 19475 \let\hausaD\texthausaD  
 19476 \let\hausaK\texthausaK  
 19477 \let\barl\textbarl  
 19478 \let\inve\textinve  
 19479 \let\yogh\textyogh  
 19480 \let\slashc\textslashc  
 19481 \let\scripta\textscripta  
 19482 \let\openo\textopeno  
 19483 \let\rtaild\textrtaild  
 19484 \let\reve\textreve  
 19485 \let\schwa\textschwa  
 19486 \let\niepsilon\textniepsilon  
 19487 \let\reveysilon\textreveysilon  
 19488 \let\rhookreveysilon\texthookreveysilon  
 19489 \let\scriptg\textscriptg  
 19490 \let\scg\textscg  
 19491 \let\ipagamma\textipagamma  
 19492 \let\babygamma\textbabygamma  
 19493 \let\bari\textbari  
 19494 \let\niiota\textniiota  
 19495 \let\sci\textsci  
 19496 \let\scn\textscn  
 19497 \let\baro\textbaro  
 19498 \let\niphi\textniphi  
 19499 \let\longlegr\textlonglegr  
 19500 \let\scr\textscr  
 19501 \let\invscr\textinvscr  
 19502 \let\esh\textesh  
 19503 \let\baru\textbaru  
 19504 \let\niupsilon\textniupsilon  
 19505 \let\scriptv\textscriptv  
 19506 \let\turnv\textturnv  
 19507 \let\turnw\textturnw  
 19508 \let\turny\textturny  
 19509 \let\scy\textscy  
 19510 \let\yogh\textyogh  
 19511 \let\glotstop\textglotstop  
 19512 \let\revglotstop\textrevglotstop  
 19513 \let\invglotstop\textinvglotstop  
 19514 \let\Gamma\textGamma  
 19515 \let\Delta\textDelta  
 19516 \let\Theta\textTheta  
 19517 \let\Lambda\textLambda  
 19518 \let\Xi\textXi  
 19519 \let\Pi\textPi  
 19520 \let\Sigma\textSigma  
 19521 \let\Upsilon\textUpsilon  
 19522 \let\Phi\textPhi  
 19523 \let\Psi\textPsi  
 19524 \let\Omega\textOmega

19525 \let\alpha\textalpha  
 19526 \let\beta\textbeta  
 19527 \let\gamma\textgamma  
 19528 \let\delta\textdelta  
 19529 \let\epsilon\textepsilon  
 19530 \let\zeta\textzeta  
 19531 \let\eta\texteta  
 19532 \let\theta\texttheta  
 19533 \let\iota\textiota  
 19534 \let\kappa\textkappa  
 19535 \let\lambda\textlambda  
 19536 \let\mugreek\textmugreek  
 19537 \let\nu\textnu  
 19538 \let\xi\textxi  
 19539 \let\pi\textpi  
 19540 \let\rho\textrho  
 19541 \let\varsigma\textvarsigma  
 19542 \let\sigma\textsigma  
 19543 \let\tau\texttau  
 19544 \let\upsilon\textupsilon  
 19545 \let\phi\textphi  
 19546 \let\chi\textchi  
 19547 \let\psi\textpsi  
 19548 \let\omega\textomega  
 19549 \let\scd\textscd  
 19550 \let\scu\textscu  
 19551 \let\iinferior\textiinferior  
 19552 \let\rinferior\extrinferior  
 19553 \let\uinferior\textuinferior  
 19554 \let\vinferior\textvinferior  
 19555 \let\betainferior\textbetainferior  
 19556 \let\gammainferior\textgammainferior  
 19557 \let\rhoinferior\extrhoinferior  
 19558 \let\phiinferior\textphiinferior  
 19559 \let\chiinferior\textchiinferior  
 19560 \let\barsci\textbarsci  
 19561 \let\barp\textbarp  
 19562 \let\barscu\textbarscu  
 19563 \let\htrtaild\texthtrtaild  
 19564 \let\dagger\textdagger  
 19565 \let\bullet\textbullet  
 19566 \let\hdotfor\texthdotfor  
 19567 \let\prime\textprime  
 19568 \let\second\textsecond  
 19569 \let\third\textthird  
 19570 \let\backprime\textbackprime  
 19571 \let\lefttherefore\textlefttherefore  
 19572 \let\fourth\textfourth  
 19573 \let\diamonddots\textdiamonddots  
 19574 \let\zerosuperior\textzerosuperior  
 19575 \let\isuperior\textisuperior  
 19576 \let\foursuperior\textfoursuperior  
 19577 \let\fivesuperior\textfivesuperior  
 19578 \let\sixsuperior\textsixsuperior  
 19579 \let\sevensuperior\textsevensuperior  
 19580 \let\eightsuperior\texteightsuperior  
 19581 \let\ninesuperior\textninesuperior

19582 \let\plussuperior\textplussuperior  
 19583 \let\minussuperior\textminussuperior  
 19584 \let\equalsuperior\textequalsuperior  
 19585 \let\parenleftsuperior\textparenleftsuperior  
 19586 \let\parenrightsuperior\textparenrightsuperior  
 19587 \let\nsuperior\textnsuperior  
 19588 \let\zeroinferior\textzeroinferior  
 19589 \let\oneinferior\textoneinferior  
 19590 \let\twoinferior\texttwoinferior  
 19591 \let\threeinferior\textthreeinferior  
 19592 \let\fourinferior\textfourinferior  
 19593 \let\fiveinferior\textfiveinferior  
 19594 \let\sixinferior\textsixinferior  
 19595 \let\seveninferior\textseveninferior  
 19596 \let\eightinferior\texteightinferior  
 19597 \let\nineinferior\textnineinferior  
 19598 \let\plusinferior\textplusinferior  
 19599 \let\minusinferior\textminusinferior  
 19600 \let\equalsinferior\textequalsinferior  
 19601 \let\parenleftinferior\textparenleftinferior  
 19602 \let\parenrightinferior\textparenrightinferior  
 19603 \let\ainferior\textainferior  
 19604 \let\einferior\texteinferior  
 19605 \let\oinferior\textoinferior  
 19606 \let\xinferior\textxinferior  
 19607 \let\schwainferior\textschwainferior  
 19608 \let\hinferior\texthinferior  
 19609 \let\kinferior\textkinferior  
 19610 \let\linferior\textlinferior  
 19611 \let\minferior\textminferior  
 19612 \let\ninferior\textninferior  
 19613 \let\pinferior\textpinferior  
 19614 \let\sinferior\textsinferior  
 19615 \let\tinferior\texttinferior  
 19616 \let\hslash\texthslash  
 19617 \let\Im\textIm  
 19618 \let\ell\textell  
 19619 \let\wp\textwp  
 19620 \let\Re\textRe  
 19621 \let\mho\textmho  
 19622 \let\riota\textriota  
 19623 \let\Finv\textFinv  
 19624 \let\aleph\textaleph  
 19625 \let\beth\textbeth  
 19626 \let\gimel\textgimel  
 19627 \let\daleth\textdaleth  
 19628 \let\xfax\textfax  
 19629 \let\Game\textGame  
 19630 \let\leftarrow\textleftarrow  
 19631 \let\uparrow\textuparrow  
 19632 \let\rightarrow\textrightarrow  
 19633 \let\downarrow\textdownarrow  
 19634 \let\leftrightarrow\textleftrightarrow  
 19635 \let\updownarrow\textupdownarrow  
 19636 \let\rightarrowtail\textrightarrowtail  
 19637 \let\nearrow\textnearrow  
 19638 \let\searrow\textsearrow

19639  $\backslash\text{let}\backslash\text{swarrow}\backslash\text{textswarrow}$   
 19640  $\backslash\text{let}\backslash\text{nleftarrow}\backslash\text{textnleftarrow}$   
 19641  $\backslash\text{let}\backslash\text{nrightarrow}\backslash\text{textnrightarrow}$   
 19642  $\backslash\text{let}\backslash\text{twoheadleftarrow}\backslash\text{texttwoheadleftarrow}$   
 19643  $\backslash\text{let}\backslash\text{twoheaduparrow}\backslash\text{texttwoheaduparrow}$   
 19644  $\backslash\text{let}\backslash\text{twoheadrightarrow}\backslash\text{texttwoheadrightarrow}$   
 19645  $\backslash\text{let}\backslash\text{twoheaddownarrow}\backslash\text{texttwoheaddownarrow}$   
 19646  $\backslash\text{let}\backslash\text{leftarrowtail}\backslash\text{textleftarrowtail}$   
 19647  $\backslash\text{let}\backslash\text{rightarrowtail}\backslash\text{textrightarrowtail}$   
 19648  $\backslash\text{let}\backslash\text{mapsto}\backslash\text{textmapsto}$   
 19649  $\backslash\text{let}\backslash\text{hookleftarrow}\backslash\text{texthookleftarrow}$   
 19650  $\backslash\text{let}\backslash\text{hookrightarrow}\backslash\text{texthookrightarrow}$   
 19651  $\backslash\text{let}\backslash\text{looparrowleft}\backslash\text{textlooparrowleft}$   
 19652  $\backslash\text{let}\backslash\text{looparrowright}\backslash\text{textlooparrowright}$   
 19653  $\backslash\text{let}\backslash\text{nleftrightarrow}\backslash\text{textnleftrightarrow}$   
 19654  $\backslash\text{let}\backslash\text{lightning}\backslash\text{textlightning}$   
 19655  $\backslash\text{let}\backslash\text{dlsh}\backslash\text{texddlsh}$   
 19656  $\backslash\text{let}\backslash\text{curvearrowleft}\backslash\text{textcurvearrowleft}$   
 19657  $\backslash\text{let}\backslash\text{curvearrowright}\backslash\text{textcurvearrowright}$   
 19658  $\backslash\text{let}\backslash\text{leftharpoonup}\backslash\text{textleftharpoonup}$   
 19659  $\backslash\text{let}\backslash\text{leftharpoondown}\backslash\text{textleftharpoondown}$   
 19660  $\backslash\text{let}\backslash\text{upharpoonright}\backslash\text{textupharpoonright}$   
 19661  $\backslash\text{let}\backslash\text{upharpoonleft}\backslash\text{textupharpoonleft}$   
 19662  $\backslash\text{let}\backslash\text{rightharpoonup}\backslash\text{textrightharpoonup}$   
 19663  $\backslash\text{let}\backslash\text{rightharpoondown}\backslash\text{textrightharpoondown}$   
 19664  $\backslash\text{let}\backslash\text{downharpoonright}\backslash\text{textdownharpoonright}$   
 19665  $\backslash\text{let}\backslash\text{downharpoonleft}\backslash\text{textdownharpoonleft}$   
 19666  $\backslash\text{let}\backslash\text{rightleftarrows}\backslash\text{textrightleftarrows}$   
 19667  $\backslash\text{let}\backslash\text{updownarrows}\backslash\text{textupdownarrows}$   
 19668  $\backslash\text{let}\backslash\text{leftrightharpoons}\backslash\text{textleftrightharpoons}$   
 19669  $\backslash\text{let}\backslash\text{leftleftarrows}\backslash\text{textleftleftarrows}$   
 19670  $\backslash\text{let}\backslash\text{upuparrows}\backslash\text{textupuparrows}$   
 19671  $\backslash\text{let}\backslash\text{rightrightarrows}\backslash\text{textrightrightarrows}$   
 19672  $\backslash\text{let}\backslash\text{downdownarrows}\backslash\text{textdowndownarrows}$   
 19673  $\backslash\text{let}\backslash\text{leftrightharpoons}\backslash\text{textleftrightharpoons}$   
 19674  $\backslash\text{let}\backslash\text{rightleftharpoons}\backslash\text{textrightleftharpoons}$   
 19675  $\backslash\text{let}\backslash\text{nLeftarrow}\backslash\text{textnLeftarrow}$   
 19676  $\backslash\text{let}\backslash\text{nLeftrightarrow}\backslash\text{textnLeftrightarrow}$   
 19677  $\backslash\text{let}\backslash\text{nRrightarrow}\backslash\text{textnRrightarrow}$   
 19678  $\backslash\text{let}\backslash\text{Leftarrow}\backslash\text{textLeftarrow}$   
 19679  $\backslash\text{let}\backslash\text{Uparrow}\backslash\text{textUparrow}$   
 19680  $\backslash\text{let}\backslash\text{Rrightarrow}\backslash\text{textRrightarrow}$   
 19681  $\backslash\text{let}\backslash\text{Downarrow}\backslash\text{textDownarrow}$   
 19682  $\backslash\text{let}\backslash\text{Leftrightarrow}\backslash\text{textLeftrightarrow}$   
 19683  $\backslash\text{let}\backslash\text{Updownarrow}\backslash\text{textUpdownarrow}$   
 19684  $\backslash\text{let}\backslash\text{Narrow}\backslash\text{textNarrow}$   
 19685  $\backslash\text{let}\backslash\text{Nearrow}\backslash\text{textNearrow}$   
 19686  $\backslash\text{let}\backslash\text{Swarrow}\backslash\text{textSwarrow}$   
 19687  $\backslash\text{let}\backslash\text{Swarrow}\backslash\text{textSwarrow}$   
 19688  $\backslash\text{let}\backslash\text{Lleftarrow}\backslash\text{textLleftarrow}$   
 19689  $\backslash\text{let}\backslash\text{Rrightarrow}\backslash\text{textRrightarrow}$   
 19690  $\backslash\text{let}\backslash\text{leftsquigarrow}\backslash\text{textleftsquigarrow}$   
 19691  $\backslash\text{let}\backslash\text{rightsquigarrow}\backslash\text{textrightsquigarrow}$   
 19692  $\backslash\text{let}\backslash\text{dashleftarrow}\backslash\text{textdashleftarrow}$   
 19693  $\backslash\text{let}\backslash\text{dasheduparrow}\backslash\text{textdasheduparrow}$   
 19694  $\backslash\text{let}\backslash\text{dashrightarrow}\backslash\text{textdashrightarrow}$   
 19695  $\backslash\text{let}\backslash\text{dasheddownarrow}\backslash\text{textdasheddownarrow}$

19696  $\backslash\text{let}\backslash\text{downuparrows}\backslash\text{textdownuparrows}$   
 19697  $\backslash\text{let}\backslash\text{forall}\backslash\text{textforall}$   
 19698  $\backslash\text{let}\backslash\text{complement}\backslash\text{textcomplement}$   
 19699  $\backslash\text{let}\backslash\text{partial}\backslash\text{textpartial}$   
 19700  $\backslash\text{let}\backslash\text{exists}\backslash\text{textexists}$   
 19701  $\backslash\text{let}\backslash\text{nexists}\backslash\text{textnexists}$   
 19702  $\backslash\text{let}\backslash\text{emptyset}\backslash\text{textemptyset}$   
 19703  $\backslash\text{let}\backslash\text{triangle}\backslash\text{texttriangle}$   
 19704  $\backslash\text{let}\backslash\text{nabla}\backslash\text{textnabla}$   
 19705  $\backslash\text{let}\backslash\text{in}\backslash\text{textin}$   
 19706  $\backslash\text{let}\backslash\text{notin}\backslash\text{textnotin}$   
 19707  $\backslash\text{let}\backslash\text{smallin}\backslash\text{textsmallin}$   
 19708  $\backslash\text{let}\backslash\text{ni}\backslash\text{textni}$   
 19709  $\backslash\text{let}\backslash\text{notowner}\backslash\text{textnotowner}$   
 19710  $\backslash\text{let}\backslash\text{smallowns}\backslash\text{textsmallowns}$   
 19711  $\backslash\text{let}\backslash\text{prod}\backslash\text{textprod}$   
 19712  $\backslash\text{let}\backslash\text{amalg}\backslash\text{textamalg}$   
 19713  $\backslash\text{let}\backslash\text{sum}\backslash\text{textsum}$   
 19714  $\backslash\text{let}\backslash\text{mp}\backslash\text{textmp}$   
 19715  $\backslash\text{let}\backslash\text{dotplus}\backslash\text{textdotplus}$   
 19716  $\backslash\text{let}\backslash\text{setminus}\backslash\text{textsetminus}$   
 19717  $\backslash\text{let}\backslash\text{ast}\backslash\text{textast}$   
 19718  $\backslash\text{let}\backslash\text{circ}\backslash\text{textcirc}$   
 19719  $\backslash\text{let}\backslash\text{surd}\backslash\text{textsurd}$   
 19720  $\backslash\text{let}\backslash\text{propto}\backslash\text{textpropto}$   
 19721  $\backslash\text{let}\backslash\text{infty}\backslash\text{textinfty}$   
 19722  $\backslash\text{let}\backslash\text{angle}\backslash\text{textangle}$   
 19723  $\backslash\text{let}\backslash\text{measuredangle}\backslash\text{textmeasuredangle}$   
 19724  $\backslash\text{let}\backslash\text{sphericalangle}\backslash\text{textsphericalangle}$   
 19725  $\backslash\text{let}\backslash\text{mid}\backslash\text{textmid}$   
 19726  $\backslash\text{let}\backslash\text{nmid}\backslash\text{textnmid}$   
 19727  $\backslash\text{let}\backslash\text{parallel}\backslash\text{textparallel}$   
 19728  $\backslash\text{let}\backslash\text{nparallel}\backslash\text{textnparallel}$   
 19729  $\backslash\text{let}\backslash\text{wedge}\backslash\text{textwedge}$   
 19730  $\backslash\text{let}\backslash\text{vee}\backslash\text{textvee}$   
 19731  $\backslash\text{let}\backslash\text{cap}\backslash\text{textcap}$   
 19732  $\backslash\text{let}\backslash\text{cup}\backslash\text{textcup}$   
 19733  $\backslash\text{let}\backslash\text{int}\backslash\text{textint}$   
 19734  $\backslash\text{let}\backslash\text{iint}\backslash\text{textiint}$   
 19735  $\backslash\text{let}\backslash\text{iiint}\backslash\text{textiiint}$   
 19736  $\backslash\text{let}\backslash\text{oint}\backslash\text{textoint}$   
 19737  $\backslash\text{let}\backslash\text{oiint}\backslash\text{textoiint}$   
 19738  $\backslash\text{let}\backslash\text{ointclockwise}\backslash\text{textointclockwise}$   
 19739  $\backslash\text{let}\backslash\text{ointctrclockwise}\backslash\text{textointctrclockwise}$   
 19740  $\backslash\text{let}\backslash\text{therefore}\backslash\text{texttherefore}$   
 19741  $\backslash\text{let}\backslash\text{because}\backslash\text{textbecause}$   
 19742  $\backslash\text{let}\backslash\text{vdots}\backslash\text{textvdots}$   
 19743  $\backslash\text{let}\backslash\text{sqdots}\backslash\text{textsquaredots}$   
 19744  $\backslash\text{let}\backslash\text{dotminus}\backslash\text{textdotminus}$   
 19745  $\backslash\text{let}\backslash\text{eqcolon}\backslash\text{texteqcolon}$   
 19746  $\backslash\text{let}\backslash\text{sim}\backslash\text{textsimeq}$   
 19747  $\backslash\text{let}\backslash\text{backsim}\backslash\text{textbacksim}$   
 19748  $\backslash\text{let}\backslash\text{wr}\backslash\text{textwr}$   
 19749  $\backslash\text{let}\backslash\text{nsim}\backslash\text{textnsim}$   
 19750  $\backslash\text{let}\backslash\text{simeq}\backslash\text{textsimeq}$   
 19751  $\backslash\text{let}\backslash\text{cong}\backslash\text{textcong}$   
 19752  $\backslash\text{let}\backslash\text{ncong}\backslash\text{textncong}$



19753 \let\approx\textapprox  
 19754 \let\approxeq\textapproxeq  
 19755 \let\triplesim\texttriplesim  
 19756 \let\backcong\textbackcong  
 19757 \let\asympt\textasympt  
 19758 \let\Bumpeq\textBumpeq  
 19759 \let\bumpeq\textbumpeq  
 19760 \let\doteq\textdoteq  
 19761 \let\doteqdot\textdoteqdot  
 19762 \let\fallingdoteq\textfallingdoteq  
 19763 \let\risingdoteq\textrisingdoteq  
 19764 \let\colonequals\textcolonequals  
 19765 \let\equalscolon\textequalscolon  
 19766 \let\eqcirc\texteqcirc  
 19767 \let\circeq\textcirceq  
 19768 \let\hateq\texthateq  
 19769 \let\triangleeq\texttriangleeq  
 19770 \let\neq\textneq  
 19771 \let\ne\textne  
 19772 \let\equiv\textequiv  
 19773 \let\nequiv\textnequiv  
 19774 \let\leq\textleq  
 19775 \let\le\textle  
 19776 \let\geq\textgeq  
 19777 \let\ge\textge  
 19778 \let\leqq\textleqq  
 19779 \let\geqq\textgeqq  
 19780 \let\lneqq\textlneqq  
 19781 \let\gneqq\textgneqq  
 19782 \let\ll\textll  
 19783 \let\gg\textgg  
 19784 \let\between\textbetween  
 19785 \let\nless\textnless  
 19786 \let\ngtr\textngtr  
 19787 \let\nleq\textnleq  
 19788 \let\ngeq\textngeq  
 19789 \let\lesssim\textlesssim  
 19790 \let\gtrsim\textgtrsim  
 19791 \let\lessgtr\textlessgtr  
 19792 \let\gtrless\textgtrless  
 19793 \let\prec\textprec  
 19794 \let\succ\textsucc  
 19795 \let\preccurlyeq\textpreccurlyeq  
 19796 \let\succcurlyeq\textsucccurlyeq  
 19797 \let\precsim\textprecsim  
 19798 \let\succsim\textsuccsim  
 19799 \let\nprec\textnprec  
 19800 \let\nsucc\textnsucc  
 19801 \let\subset\textsubset  
 19802 \let\supset\textsupset  
 19803 \let\subsetset\textsubsetset  
 19804 \let\supsetset\textsupsetset  
 19805 \let\subseteq\textsubseteq  
 19806 \let\supseteq\textsupseteq  
 19807 \let\subsetseteq\textsubsetseteq  
 19808 \let\supsetseteq\textsupsetseteq  
 19809 \let\subsetneq\textsubsetneq

19810  $\backslash\text{let}\backslash\text{supsetneq}\backslash\text{textsuptneq}$   
 19811  $\backslash\text{let}\backslash\text{cupdot}\backslash\text{textcupdot}$   
 19812  $\backslash\text{let}\backslash\text{cupplus}\backslash\text{textcupplus}$   
 19813  $\backslash\text{let}\backslash\text{sqsubset}\backslash\text{textsqssubset}$   
 19814  $\backslash\text{let}\backslash\text{sqsupset}\backslash\text{textsqsusupset}$   
 19815  $\backslash\text{let}\backslash\text{sqsubsest}\backslash\text{textsqsusubsest}$   
 19816  $\backslash\text{let}\backslash\text{sqsupsest}\backslash\text{textsqsusupsest}$   
 19817  $\backslash\text{let}\backslash\text{sqcap}\backslash\text{textsqqcap}$   
 19818  $\backslash\text{let}\backslash\text{sqcup}\backslash\text{textsqqcup}$   
 19819  $\backslash\text{let}\backslash\text{oplus}\backslash\text{textoplus}$   
 19820  $\backslash\text{let}\backslash\text{ominus}\backslash\text{textominus}$   
 19821  $\backslash\text{let}\backslash\text{otimes}\backslash\text{textotimes}$   
 19822  $\backslash\text{let}\backslash\text{oslash}\backslash\text{textoslash}$   
 19823  $\backslash\text{let}\backslash\text{odot}\backslash\text{textodot}$   
 19824  $\backslash\text{let}\backslash\text{circledcirc}\backslash\text{textcircledcirc}$   
 19825  $\backslash\text{let}\backslash\text{circledast}\backslash\text{textcircledast}$   
 19826  $\backslash\text{let}\backslash\text{circleddash}\backslash\text{textcircleddash}$   
 19827  $\backslash\text{let}\backslash\text{boxplus}\backslash\text{textboxplus}$   
 19828  $\backslash\text{let}\backslash\text{boxminus}\backslash\text{textboxminus}$   
 19829  $\backslash\text{let}\backslash\text{boxtimes}\backslash\text{textboxtimes}$   
 19830  $\backslash\text{let}\backslash\text{boxdot}\backslash\text{textboxdot}$   
 19831  $\backslash\text{let}\backslash\text{vdash}\backslash\text{textvdash}$   
 19832  $\backslash\text{let}\backslash\text{dashv}\backslash\text{textdashv}$   
 19833  $\backslash\text{let}\backslash\text{top}\backslash\text{texttop}$   
 19834  $\backslash\text{let}\backslash\text{bot}\backslash\text{textbot}$   
 19835  $\backslash\text{let}\backslash\text{vDash}\backslash\text{textvDash}$   
 19836  $\backslash\text{let}\backslash\text{models}\backslash\text{textmodels}$   
 19837  $\backslash\text{let}\backslash\text{Vdash}\backslash\text{textVdash}$   
 19838  $\backslash\text{let}\backslash\text{Vvdash}\backslash\text{textVvdash}$   
 19839  $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$   
 19840  $\backslash\text{let}\backslash\text{nvdash}\backslash\text{textnvdash}$   
 19841  $\backslash\text{let}\backslash\text{nvDash}\backslash\text{textnvDash}$   
 19842  $\backslash\text{let}\backslash\text{nVDash}\backslash\text{textnVDash}$   
 19843  $\backslash\text{let}\backslash\text{lhs}\backslash\text{textrhs}$   
 19844  $\backslash\text{let}\backslash\text{rhd}\backslash\text{textrhd}$   
 19845  $\backslash\text{let}\backslash\text{unlhd}\backslash\text{textunlhd}$   
 19846  $\backslash\text{let}\backslash\text{unrhd}\backslash\text{textunrhd}$   
 19847  $\backslash\text{let}\backslash\text{multimapdotbothA}\backslash\text{textmultimapdotbothA}$   
 19848  $\backslash\text{let}\backslash\text{multimapdotbothB}\backslash\text{textmultimapdotbothB}$   
 19849  $\backslash\text{let}\backslash\text{multimap}\backslash\text{textmultimap}$   
 19850  $\backslash\text{let}\backslash\text{veebar}\backslash\text{textveebar}$   
 19851  $\backslash\text{let}\backslash\text{barwedge}\backslash\text{textbarwedge}$   
 19852  $\backslash\text{let}\backslash\text{star}\backslash\text{textstar}$   
 19853  $\backslash\text{let}\backslash\text{divideontimes}\backslash\text{textdivideontimes}$   
 19854  $\backslash\text{let}\backslash\text{bowtie}\backslash\text{textbowtie}$   
 19855  $\backslash\text{let}\backslash\text{ltimes}\backslash\text{textrtimes}$   
 19856  $\backslash\text{let}\backslash\text{rtimes}\backslash\text{textrtimes}$   
 19857  $\backslash\text{let}\backslash\text{leftthreetimes}\backslash\text{textleftthreetimes}$   
 19858  $\backslash\text{let}\backslash\text{rightthreetimes}\backslash\text{textrightthreetimes}$   
 19859  $\backslash\text{let}\backslash\text{backsimeq}\backslash\text{textbacksimeq}$   
 19860  $\backslash\text{let}\backslash\text{curlyvee}\backslash\text{textcurlyvee}$   
 19861  $\backslash\text{let}\backslash\text{curlywedge}\backslash\text{textcurlywedge}$   
 19862  $\backslash\text{let}\backslash\text{Subset}\backslash\text{textSubset}$   
 19863  $\backslash\text{let}\backslash\text{Supset}\backslash\text{textSupset}$   
 19864  $\backslash\text{let}\backslash\text{Cap}\backslash\text{textCap}$   
 19865  $\backslash\text{let}\backslash\text{Cup}\backslash\text{textCup}$   
 19866  $\backslash\text{let}\backslash\text{pitchfork}\backslash\text{textpitchfork}$

19867 \let\lessdot\textlessdot  
 19868 \let\gtrdot\textgtrdot  
 19869 \let\lll\textlll  
 19870 \let\ggg\textggg  
 19871 \let\lesseqgtr\textlesseqgtr  
 19872 \let\gtreqless\textgtreqless  
 19873 \let\curlyeqprec\textcurlyeqprec  
 19874 \let\curlyeqsucc\textcurlyeqsucc  
 19875 \let\npreccurlyeq\textnpreccurlyeq  
 19876 \let\nsucccurlyeq\textnsucccurlyeq  
 19877 \let\nqsubseteq\textnqsubseteq  
 19878 \let\nqsupseteq\textnqsupseteq  
 19879 \let\sqsubsetneq\textsqsubsetneq  
 19880 \let\sqsupsetneq\textsqsupsetneq  
 19881 \let\lnsim\textlnsim  
 19882 \let\gnsim\textgnsim  
 19883 \let\precnsim\textprecnsim  
 19884 \let\succnsim\textsuccnsim  
 19885 \let\ntriangleleft\textntriangleleft  
 19886 \let\ntriangleright\textntriangleright  
 19887 \let\ntrianglelefteq\textntrianglelefteq  
 19888 \let\ntrianglerighteq\textntrianglerighteq  
 19889 \let\vdots\textvdots  
 19890 \let\cdots\textcdots  
 19891 \let\udots\textudots  
 19892 \let\ddots\textddots  
 19893 \let\barin\textbarin  
 19894 \let\diameter\textdiameter  
 19895 \let\backneg\textbackneg  
 19896 \let\invbackneg\textinvbackneg  
 19897 \let\clock\textclock  
 19898 \let\ulcorner\textulcorner  
 19899 \let\urcorner\texturcorner  
 19900 \let\llcorner\textllcorner  
 19901 \let\lrcorner\textlrcorner  
 19902 \let\frown\textfrown  
 19903 \let\smile\textsmile  
 19904 \let\Keyboard\textKeyboard  
 19905 \let\langle\textlangle  
 19906 \let\rangle\textrangle  
 19907 \let\APLinv\textAPLinv  
 19908 \let\notslash\textnotslash  
 19909 \let\notbackslash\textnotbackslash  
 19910 \let\boxslash\textboxslash  
 19911 \let\backslash\textbackslash  
 19912 \let\APLleftarrowbox\textAPLleftarrowbox  
 19913 \let\APLrightarrowbox\textAPLrightarrowbox  
 19914 \let\APLuparrowbox\textAPLuparrowbox  
 19915 \let\APLdownarrowbox\textAPLdownarrowbox  
 19916 \let\APLinput\textAPLinput  
 19917 \let\Request\textRequest  
 19918 \let\bbslash\textbbslash  
 19919 \let\bigtriangleup\textbigtriangleup  
 19920 \let\triangleright\texttriangleright  
 19921 \let\bigtriangledown\textbigtriangledown  
 19922 \let\triangleleft\texttriangleleft  
 19923 \let\diamond\textdiamond

19924 \let\lozenge\textlozenge  
 19925 \let\openbullet\textopenbullet  
 19926 \let\boxbar\textboxbar  
 19927 \let\bigcircle\textbigcircle  
 19928 \let\Cloud\textCloud  
 19929 \let\FiveStar\textFiveStar  
 19930 \let\FiveStarOpen\textFiveStarOpen  
 19931 \let\Phone\textPhone  
 19932 \let\Checkedbox\textCheckedbox  
 19933 \let\Crossedbox\textCrossedbox  
 19934 \let\Coffeecup\textCoffeecup  
 19935 \let\HandCuffLeft\textHandCuffLeft  
 19936 \let\HandCuffRight\textHandCuffRight  
 19937 \let\HandLeft\textHandLeft  
 19938 \let\HandRight\textHandRight  
 19939 \let\Radioactivity\textRadioactivity  
 19940 \let\Biohazard\textBiohazard  
 19941 \let\Ankh\textAnkh  
 19942 \let\Yinyang\textYinyang  
 19943 \let\frownie\textfrownie  
 19944 \let\smiley\textsmiley  
 19945 \let\blacksmiley\textblacksmiley  
 19946 \let\sun\textsun  
 19947 \let\leftmoon\textleftmoon  
 19948 \let\rightmoon\textrightmoon  
 19949 \let\mercury\textmercury  
 19950 \let\earth\textearth  
 19951 \let\male\textmale  
 19952 \let\jupiter\textjupiter  
 19953 \let\saturn\textsaturn  
 19954 \let\uranus\texturanus  
 19955 \let\neptune\textneptune  
 19956 \let\pluto\textpluto  
 19957 \let\aries\textaries  
 19958 \let\taurus\texttaurus  
 19959 \let\gemini\textgemini  
 19960 \let\cancer\textcancer  
 19961 \let\leo\textleo  
 19962 \let\virgo\textvirgo  
 19963 \let\libra\textlibra  
 19964 \let\scorpio\textscorpio  
 19965 \let\sagittarius\textsagittarius  
 19966 \let\capricorn\textcapricorn  
 19967 \let\aquarius\textaquarius  
 19968 \let\pisces\textpisces  
 19969 \let\quarternote\textquarternote  
 19970 \let\twonotes\texttwonotes  
 19971 \let\sixteenthnote\textsixteenthnote  
 19972 \let\flat\textflat  
 19973 \let\natural\textnatural  
 19974 \let\sharp\textsharp  
 19975 \let\recycle\textrecycle  
 19976 \let\Wheelchair\textWheelchair  
 19977 \let\Flag\textFlag  
 19978 \let\ds\textds  
 19979 \let\dsmedical\textdsmedical  
 19980 \let\dsjuridical\textdsjuridical

19981 \let\dschemical\textdschemical  
 19982 \let\dsbiological\textdsbiological  
 19983 \let\dscommercial\textdscommercial  
 19984 \let\manstar\textmanstar  
 19985 \let\danger\textdanger  
 19986 \let\FemaleFemale\textFemaleFemale  
 19987 \let\MaleMale\textMaleMale  
 19988 \let\FemaleMale\textFemaleMale  
 19989 \let\Hermaphrodite\textHermaphrodite  
 19990 \let\SunCload\textSunCload  
 19991 \let\Rain\textRain  
 19992 \let\noway\textnoway  
 19993 \let\Mountain\textMountain  
 19994 \let\Tent\textTent  
 19995 \let\ScissorRight\textScissorRight  
 19996 \let\ScissorRightBrokenTop\textScissorRightBrokenTop  
 19997 \let\ScissorHollowRight\textScissorHollowRight  
 19998 \let\PhoneHandset\textPhoneHandset  
 19999 \let\Tape\textTape  
 20000 \let\Plane\textPlane  
 20001 \let\Envelope\textEnvelope  
 20002 \let\Peace\textPeace  
 20003 \let\Writinghand\textWritinghand  
 20004 \let\PencilRightDown\textPencilRightDown  
 20005 \let\PencilRight\textPencilRight  
 20006 \let\PencilRightUp\textPencilRightUp  
 20007 \let\NibRight\textNibRight  
 20008 \let\NibSolidRight\textNibSolidRight  
 20009 \let\Checkmark\textCheckmark  
 20010 \let\CheckmarkBold\textCheckmarkBold  
 20011 \let\XSolid\textXSolid  
 20012 \let\XSolidBold\textXSolidBold  
 20013 \let\XSolidBrush\textXSolidBrush  
 20014 \let\CrossOutline\textCrossOutline  
 20015 \let\Plus\textPlus  
 20016 \let\PlusThinCenterOpen\textPlusThinCenterOpen  
 20017 \let\PlusCenterOpen\textPlusCenterOpen  
 20018 \let\Cross\textCross  
 20019 \let\CrossOpenShadow\textCrossOpenShadow  
 20020 \let\CrossOutline\textCrossOutline  
 20021 \let\CrossMaltese\textCrossMaltese  
 20022 \let\DavidStar\textDavidStar  
 20023 \let\FourAsterisk\textFourAsterisk  
 20024 \let\JackStar\textJackStar  
 20025 \let\JackStarBold\textJackStarBold  
 20026 \let\ClowerTips\textClowerTips  
 20027 \let\FourStar\textFourStar  
 20028 \let\FourStarOpen\textFourStarOpen  
 20029 \let\FiveStarOpen\textFiveStarOpen  
 20030 \let\FiveStarOpenCircled\textFiveStarOpenCircled  
 20031 \let\FiveStarCenterOpen\textFiveStarCenterOpen  
 20032 \let\FiveStarOpenDotted\textFiveStarOpenDotted  
 20033 \let\FiveStarOutline\textFiveStarOutline  
 20034 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy  
 20035 \let\FiveStarConvex\textFiveStarConvex  
 20036 \let\FiveStarShadow\textFiveStarShadow  
 20037 \let\AsteriskBold\textAsteriskBold

20038 \let\AsteriskCenterOpen\textAsteriskCenterOpen  
 20039 \let\EightStar\textEightStar  
 20040 \let\EightStarConvex\textEightStarConvex  
 20041 \let\SixStar\textSixStar  
 20042 \let\EightStar\textEightStar  
 20043 \let\EightStarBold\textEightStarBold  
 20044 \let\TwelveStar\textTwelveStar  
 20045 \let\SixteenStarLight\textSixteenStarLight  
 20046 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved  
 20047 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter  
 20048 \let\Asterisk\textAsterisk  
 20049 \let\SixFlowerAlternate\textSixFlowerAlternate  
 20050 \let\FiveFlowerPetal\textFiveFlowerPetal  
 20051 \let\FiveFlowerOpen\textFiveFlowerOpen  
 20052 \let\EightFlowerPetal\textEightFlowerPetal  
 20053 \let\SunshineOpenCircled\textSunshineOpenCircled  
 20054 \let\SixFlowerAltPetal\textSixFlowerAltPetal  
 20055 \let\SnowflakeChevron\textSnowflakeChevron  
 20056 \let\Snowflake\textSnowflake  
 20057 \let\SnowflakeChevronBold\textSnowflakeChevronBold  
 20058 \let\Sparkle\textSparkle  
 20059 \let\SparkleBold\textSparkleBold  
 20060 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds  
 20061 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved  
 20062 \let\EightAsterisk\textEightAsterisk  
 20063 \let\CircleShadow\textCircleShadow  
 20064 \let\SquareShadowBottomRight\textSquareShadowBottomRight  
 20065 \let\SquareTopRight\textSquareTopRight  
 20066 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight  
 20067 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight  
 20068 \let\DiamandSolid\textDiamandSolid  
 20069 \let\RectangleThin\textRectangleThin  
 20070 \let\Rectangle\textRectangle  
 20071 \let\RectangleBold\textRectangleBold  
 20072 \let\perp\textperp  
 20073 \let\veedot\textveedot  
 20074 \let\wedgedot\textwedgedot  
 20075 \let\leftspoon\textleftspoon  
 20076 \let\lbrackdbl\textlbrackdbl  
 20077 \let\rbrackdbl\textrbrackdbl  
 20078 \let\circlearrowleft\textcirclearrowleft  
 20079 \let\circlearrowright\textcirclearrowright  
 20080 \let\longleftarrow\textlongleftarrow  
 20081 \let\longrightarrow\textlongrightarrow  
 20082 \let\longlefttrightarrow\textlonglefttrightarrow  
 20083 \let\Longleftarrow\textLongleftarrow  
 20084 \let\Longrightarrow\textLongrightarrow  
 20085 \let\Longlefttrightarrow\textLonglefttrightarrow  
 20086 \let\longmapsto\textlongmapsto  
 20087 \let\Longmapsfrom\textLongmapsfrom  
 20088 \let\Longmapsto\textLongmapsto  
 20089 \let\nwsearrow\textnwsearrow  
 20090 \let\neswarrow\textneswarrow  
 20091 \let\lhooknarrow\textlhooknarrow  
 20092 \let\rhooknarrow\texthooknarrow  
 20093 \let\lhooksearrow\textlhooksearrow  
 20094 \let\rhooksearrow\texthooksearrow

20095 `\let\rcurvearrowne\textrcurvearrowne`  
 20096 `\let\lcurvearrowse\textlcurvearrowse`  
 20097 `\let\lcurvearrowsw\textlcurvearrowsw`  
 20098 `\let\rcurvearrowse\textrcurvearrowse`  
 20099 `\let\lcurvearrowdown\textlcurvearrowdown`  
 20100 `\let\rcurvearrowdown\textrcurvearrowdown`  
 20101 `\let\rcurvearrowleft\textrcurvearrowleft`  
 20102 `\let\rcurvearrowright\textrcurvearrowright`  
 20103 `\let\leftrightharpoon\textleftrightharpoon`  
 20104 `\let\rightleftharpoon\textrightleftharpoon`  
 20105 `\let\updownharpoonrightleft\textupdownharpoonrightleft`  
 20106 `\let\updownharpoonleftright\textupdownharpoonleftright`  
 20107 `\let\leftleftharpoons\textleftleftharpoons`  
 20108 `\let\upupharpoons\textupupharpoons`  
 20109 `\let\righttrightharpoons\textrighttrightharpoons`  
 20110 `\let\downdownharpoons\textdowndownharpoons`  
 20111 `\let\leftbarharpoon\textleftbarharpoon`  
 20112 `\let\barleftharpoon\textbarleftharpoon`  
 20113 `\let\rightbarharpoon\textrightbarharpoon`  
 20114 `\let\barriightharpoon\textbarriightharpoon`  
 20115 `\let\updownharpoons\textupdownharpoons`  
 20116 `\let\downupharpoons\textdownupharpoons`  
 20117 `\let\obar\textobar`  
 20118 `\let\obslash\textobslash`  
 20119 `\let\obot\textobot`  
 20120 `\let\olessthan\textolessthan`  
 20121 `\let\ogreaterthan\textogreaterthan`  
 20122 `\let\boxslash\textboxslash`  
 20123 `\let\boxbslash\textboxbslash`  
 20124 `\let\boxast\textboxast`  
 20125 `\let\boxcircle\textboxcircle`  
 20126 `\let\boxbox\textboxbox`  
 20127 `\let\multimap\textmultimap`  
 20128 `\let\shuffle\textshuffle`  
 20129 `\let\uplus\textuplus`  
 20130 `\let\bigdoublewedge\textbigdoublewedge`  
 20131 `\let\bigdoublevee\textbigdoublevee`  
 20132 `\let\Join\textJoin`  
 20133 `\let\circplus\textcircplus`  
 20134 `\let\minusdot\textminusdot`  
 20135 `\let\dotimes\textdotimes`  
 20136 `\let\dtimes\textdtimes`  
 20137 `\let\odiv\textodiv`  
 20138 `\let\invneg\textinvneg`  
 20139 `\let\squdoublecap\textsqudoublecap`  
 20140 `\let\capdot\textcapdot`  
 20141 `\let\squdoublecup\textsqudoublecup`  
 20142 `\let\doublewedge\textdoublewedge`  
 20143 `\let\doublevee\textdoublevee`  
 20144 `\let\doublebarwedge\textdoublebarwedge`  
 20145 `\let\veedoublebar\textveedoublebar`  
 20146 `\let\eqdot\texteqdot`  
 20147 `\let\coloncolonequals\textcoloncolonequals`  
 20148 `\let\leqslant\textleqslant`  
 20149 `\let\geqslant\textgeqslant`  
 20150 `\let\lessapprox\textlessapprox`  
 20151 `\let\gtrapprox\textgtrapprox`

20152 \let\lneq\textlneq  
 20153 \let\gneq\textgneq  
 20154 \let\lnapprox\textlnapprox  
 20155 \let\gnapprox\textgnapprox  
 20156 \let\lesseqqgtr\textlesseqqgtr  
 20157 \let\gtreqqless\textgtreqqless  
 20158 \let\eqslantless\texteqslantless  
 20159 \let\eqslantgtr\texteqslantgtr  
 20160 \let\leftslice\textleftslice  
 20161 \let\rightslice\textrightslice  
 20162 \let\preceq\textpreceq  
 20163 \let\succeq\textsucceq  
 20164 \let\precneq\textprecneq  
 20165 \let\succneq\textsuccneq  
 20166 \let\preceqq\textpreceqq  
 20167 \let\succeqq\textsucceqq  
 20168 \let\precneqq\textprecneqq  
 20169 \let\succneqq\textsuccneqq  
 20170 \let\precapprox\textprecapprox  
 20171 \let\precnapprox\textprecnapprox  
 20172 \let\succnapprox\textsuccnapprox  
 20173 \let\subteqq\textsubteqq  
 20174 \let\supseteqq\textsupseteqq  
 20175 \let\dashV\textdashV  
 20176 \let\Dashv\textDashv  
 20177 \let\DashV\textDashV  
 20178 \let\upmodels\textupmodels  
 20179 \let\upmodels\textupmodels  
 20180 \let\upspoon\textupspoon  
 20181 \let\interleave\textinterleave  
 20182 \let\slash\textslash  
 20183 \let\jinferior\textjinferior  
 20184 \let\slashdiv\textslashdiv  
 20185 \let\fivedots\textfivedots  
 20186 \let\oo\textoo  
 20187 \let\GaPa\textGaPa  
 20188 \let\HaPa\textHaPa  
 20189 \let\ViPa\textViPa  
 20190 \let\AcPa\textAcPa  
 20191 \let\SePa\textSePa  
 20192 \let\ZwPa\textZwPa  
 20193 \let\fullnote\textfullnote  
 20194 \let\halfnote\texthalfnote  
 20195 \let\Vier\textVier  
 20196 \let\Acht\textAcht  
 20197 \let\Sech\textSech  
 20198 \let\Zwdr\textZwdr  
 20199 \let\Mundus\textMundus  
 20200 \let\Womanface\textWomanface  
 20201 \let\Fire\textFire  
 20202 \let\Bicycle\textBicycle  
 20203 \let\Gentsroom\textGentsroom  
 20204 \let\Ladiesroom\textLadiesroom  
 20205 \let\ccnc\textccnc  
 20206 \let\ccsa\textccsa  
 20207 \let\CircledA\textCircledA  
 20208 \let\Info\textInfo



20209 \let\neg\textneg  
 20210 \let\times\texttimes  
 20211 \let\div\textdiv  
 20212 \let\pm\textpm  
 20213 \let\cdot\textcdot  
 20214 }% \psdmapshortnames  
 20215 \newcommand\*{\psdaliasnames}{%  
 20216 \let\epsdice\HyPsd@DieFace  
 20217 \let\fcdice\HyPsd@DieFace  
 20218 \let\MoonPha\HyPsd@MoonPha  
 20219 \let\mathdollar\textdollar  
 20220 \let\binampersand\textampersand  
 20221 \let\with\textampersand  
 20222 \let\mathunderscore\textunderscore  
 20223 \let\textvertline\textbar  
 20224 \let\mathsterling\textsterling  
 20225 \let\pounds\textsterling  
 20226 \let\brokenvert\textbrokenbar  
 20227 \let\mathsection\textsection  
 20228 \let\S\textsection  
 20229 \let\mathparagraph\textparagraph  
 20230 \let\vartimes\textmultiply  
 20231 \let\eth\dh  
 20232 \let\crossd\textcrd  
 20233 \let\textbard\textcrd  
 20234 \let\bard\textcrd  
 20235 \let\textcrh\texthbar  
 20236 \let\crossh\texthbar  
 20237 \let\planck\texthbar  
 20238 \let\eng\ng  
 20239 \let\engma\ng  
 20240 \let\crossb\textcrb  
 20241 \let\textbarb\textcrb  
 20242 \let\barb\textcrb  
 20243 \let\hv\texthvlig  
 20244 \let\hausak\texthtk  
 20245 \let\crossnilambda\textcrlambda  
 20246 \let\barlambda\textcrlambda  
 20247 \let\lambdabar\textcrlambda  
 20248 \let\lambdaslash\textcrlambda  
 20249 \let\textnrleg\textPUnrleg  
 20250 \let\textpipevar\textpipe  
 20251 \let\textdoublepipevar\textdoublepipe  
 20252 \let\textdoublebarpipevar\textdoublebarpipe  
 20253 \let\textcrg\textgslash  
 20254 \let\textdblig\textPUdblig  
 20255 \let\textqplig\textPUqplig  
 20256 \let\textcentoldstyle\textslashc  
 20257 \let\textbarc\textslashc  
 20258 \let\inva\textturna  
 20259 \let\vara\textscripta  
 20260 \let\invscripta\textturnscripta  
 20261 \let\rotvara\textturnscripta  
 20262 \let\hookb\texthtb  
 20263 \let\hausab\texthtb  
 20264 \let\varopeno\textopeno  
 20265 \let\curlyc\textctc

20266 \let\taild\textrtaild  
 20267 \let\hookd\texthtd  
 20268 \let\hausad\texthtd  
 20269 \let\er\textrhooschwa  
 20270 \let\epsi\textniepsilon  
 20271 \let\hookrepsilon\texthookrepsilon  
 20272 \let\closedrepsilon\textcloserepsilon  
 20273 \let\barj\textbardotlessj  
 20274 \let\hookg\texthtg  
 20275 \let\varg\textscriptg  
 20276 \let\vod\textipagamma  
 20277 \let\invh\textturnh  
 20278 \let\udesc\textturnh  
 20279 \let\hookh\textthh  
 20280 \let\voicedh\textthh  
 20281 \let\hookheng\textthheng  
 20282 \let\ibar\textbari  
 20283 \let\vari\textniota  
 20284 \let\tildel\texttilde  
 20285 \let\latfric\textbeltl  
 20286 \let\tail\textrtail  
 20287 \let\lz\textlyoghlig  
 20288 \let\invm\textturnm  
 20289 \let\rotm\textturnm  
 20290 \let\legm\textturnmrleg  
 20291 \let\labdentals\textltailm  
 20292 \let\emgma\textltailm  
 20293 \let\nj\textltailn  
 20294 \let\enya\textltailn  
 20295 \let\tailn\textrtailn  
 20296 \let\closedniomega\textcloseomega  
 20297 \let\varomega\textcloseomega  
 20298 \let\invr\textturnr  
 20299 \let\rotr\textturnr  
 20300 \let\invlegr\textturnlonglegr  
 20301 \let\tailinvr\textturnrrtail  
 20302 \let\legr\textlonglegr  
 20303 \let\tailr\textrtailr  
 20304 \let\flapr\textfishhookr  
 20305 \let\flap\textfishhookr  
 20306 \let\tails\textrtails  
 20307 \let\textscriptv\textesh  
 20308 \let\curlyesh\textctesh  
 20309 \let\clickt\textturnt  
 20310 \let\tailt\textrtailt  
 20311 \let\ubar\textbaru  
 20312 \let\rotOmega\textniupsilon  
 20313 \let\invv\textturnv  
 20314 \let\pwedge\textturnv  
 20315 \let\invw\textturnw  
 20316 \let\rotw\textturnw  
 20317 \let\invy\textturny  
 20318 \let\roty\textturny  
 20319 \let\tailz\textrtailz  
 20320 \let\curlyz\textctz  
 20321 \let\curlyyogh\textctyogh  
 20322 \let\ejective\textglotstop

20323 \let\glottal\textglotstop  
 20324 \let\reveject\textrevglotstop  
 20325 \let\clickc\textstretchc  
 20326 \let\textstretchcvar\textstretchc  
 20327 \let\clickb\textbullseye  
 20328 \let\textObullseye\textbullseye  
 20329 \let\textctjvar\textctj  
 20330 \let\textturnsck\textturnk  
 20331 \let\dz\textdzlig  
 20332 \let\tesh\textteshlig  
 20333 \let\digamma\textdigammagreek  
 20334 \let\hardsign\cyrhrdsn  
 20335 \let\softsign\cyrsoftsn  
 20336 \let\textsck\textPUscck  
 20337 \let\textscm\textPUscm  
 20338 \let\textscp\textPUscp  
 20339 \let\textrevscr\textPUrevscr  
 20340 \let\textrhooca\textPURhooca  
 20341 \let\textrhooke\textPURhooke  
 20342 \let\textrhookepsilon\textPURhookepsilon  
 20343 \let\textrhookepsilonopeno\textPURhookepsilonopeno  
 20344 \let\textdoublevertline\textbardbl  
 20345 \let\dag\textdagger  
 20346 \let\ddagger\textdaggerdbl  
 20347 \let\ddag\textddag  
 20348 \let\mathellipsis\textellipsis  
 20349 \let\bindnasrepma\textinvamp  
 20350 \let\parr\textinvamp  
 20351 \let\textglobrise\textnearrow  
 20352 \let\textglobfall\textsearrow  
 20353 \let\Lightning\textlightning  
 20354 \let\dashedleftarrow\textdashleftarrow  
 20355 \let\dashedrightarrow\textdashrightarrow  
 20356 \let\varnothing\textemptyset  
 20357 \let\owns\textni  
 20358 \let\varangle\text{sphericalangle}  
 20359 \let\Anglesign\text{sphericalangle}  
 20360 \let\downtherefore\textbecause  
 20361 \let\textdotdiv\textdotminus  
 20362 \let\wreath\textwr  
 20363 \let\Doteq\textdoteqdot  
 20364 \let\corresponds\texthateq  
 20365 \let\varoplus\textoplus  
 20366 \let\varominus\textominus  
 20367 \let\varotimes\textotimes  
 20368 \let\varoslash\textoslash  
 20369 \let\varodot\textodot  
 20370 \let\ocirc\textcircledcirc  
 20371 \let\varocircle\textcircledcirc  
 20372 \let\varoast\textcircledast  
 20373 \let\oasterisk\textcircledast  
 20374 \let\rightvdash\textvdash  
 20375 \let\leftvdash\textdashv  
 20376 \let\downvdash\texttop  
 20377 \let\models\textvDash  
 20378 \let\rightmodels\textvDash  
 20379 \let\rightVdash\textVdash

20380 \let\rightModels\textVDash  
 20381 \let\lessclosed\textlhd  
 20382 \let\triangleleft\textlhd  
 20383 \let\vartriangleleft\textlhd  
 20384 \let\gtrclosed\textrhd  
 20385 \let\triangleright\textrhd  
 20386 \let\vartriangleright\textrhd  
 20387 \let\leqclosed\textunlhd  
 20388 \let\gtrclosed\textunrhd  
 20389 \let\varcurlyvee\textcurlyvee  
 20390 \let\varcurlywedge\textcurlywedge  
 20391 \let\doublecap\textCap  
 20392 \let\doublecup\textCup  
 20393 \let\varsqsubsetneq\textsqsubsetneq  
 20394 \let\varsqsupsetneq\textsqsupsetneq  
 20395 \let\nlessclosed\textntriangleleft  
 20396 \let\ngtrclosed\textntriangleright  
 20397 \let\Clocklogo\textclock  
 20398 \let\varparallelinv\textbbslash  
 20399 \let\Telefon\textPhone  
 20400 \let\rightpointleft\textHandLeft  
 20401 \let\leftpointright\textHandRight  
 20402 \let\PointingHand\textHandRight  
 20403 \let\Radiation\textRadioactivity  
 20404 \let\Frowny\textfrownie  
 20405 \let\Smiley\textsmiley  
 20406 \let\Mercury\textmercury  
 20407 \let\textfemale\textPUfemale  
 20408 \let\female\textPUfemale  
 20409 \let\venus\textPUfemale  
 20410 \let\Venus\textPUfemale  
 20411 \let\Earth\textearth  
 20412 \let\mars\textmale  
 20413 \let\Mars\textmale  
 20414 \let\Jupiter\textjupiter  
 20415 \let\Saturn\textsaturn  
 20416 \let\Uranus\texturanus  
 20417 \let\Neptune\textneptune  
 20418 \let\Pluto\textpluto  
 20419 \let\Aries\textaries  
 20420 \let\Taurus\texttaurus  
 20421 \let\Gemini\textgemini  
 20422 \let\Cancer\textcancer  
 20423 \let\Leo\textleo  
 20424 \let\Virgo\textvirgo  
 20425 \let\Libra\textlibra  
 20426 \let\Scorpio\textscorpio  
 20427 \let\Sagittarius\textsagittarius  
 20428 \let\Capricorn\textcapricorn  
 20429 \let\Aquarius\textaquarius  
 20430 \let\Pisces\textpisces  
 20431 \let\spadesuit\textspadesuitblack  
 20432 \let\heartsuit\textheartsuitwhite  
 20433 \let\diamondsuit\textdiamondsuitwhite  
 20434 \let\clubsuit\textclubsuitblack  
 20435 \let\eighthnote\textmusicalnote  
 20436 \let\VarFlag\textFlag

```

20437 \let\textxswup\textdsmilitary
20438 \let\textuncrfemale\textPUuncrfemale
20439 \let\Football\textSoccerBall
20440 \let\Cutright\textScissorRightBrokenBottom
20441 \let\Rightsscissors\textScissorRight
20442 \let\Letter\textEnvelope
20443 \let\checkmark\textCheckmark
20444 \let\dauidstar\textDavidStar
20445 \let\textvarobar\textobar
20446 \let\circledbslash\textobslash
20447 \let\obackslash\textobslash
20448 \let\varobslash\textobslash
20449 \let\odplus\textobot
20450 \let\varolessthan\textolessthan
20451 \let\varogreaterthan\textogreaterthan
20452 \let\divdot\textminusdot
20453 \let\doublesqcap\textsqdoublecap
20454 \let\doublesqcup\textsqdoublecup
20455 \let\merge\textdoublevee
20456 \let\leftVdash\textdashV
20457 \let\leftmodels\textDashv
20458 \let\leftModels\textDashV
20459 \let\varparallel\textsslash
20460 \let\textheng\textPUheng
20461 \let\textlhookfour\textPUlhookfour
20462 \let\textscf\textPUscf
20463 \let\textaoig\textPUaoig
20464 \let\Ganz\textfullnote
20465 \let\Halb\texthalfnote
20466 }% \psdaliasnames
20467 </psdextra>

```

## 51 End of file hyccheck.tex

```

20468 <*check>
20469 \typeout{}
20470 \begin{document}
20471 \end{document}
20472 </check>

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