

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

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## 1 Documentation overview for hyperref

The documentation for package `hyperref` consists of several files:

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

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

[ChangeLog](#) This file records the version history (also available as text file).

[Options](#) This file provides a short option summary.

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

[Bookmark talk, paper](#) The paper version of the talk.

Source code documentation:

 [hyperref.dtx](#) This is the source code documentation for hyperref (this file).

[backref.dtx](#) “Back referencing from bibliographical citations”

[nameref.dtx](#) “Section name references in L<sup>A</sup>T<sub>E</sub>X”

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### 3 File hycheck.tex

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

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

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

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

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

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

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

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

`\HyC@checkPackage`

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

```

40 }%
41 }

```

`\checkcommand` The macro `\checkcommand` parses the next tokens as a  $\text{\LaTeX}$  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}[2010/11/12]
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{kvdefinekeys}[2011/04/07]
259 \RequirePackage{pdfescape}[2007/11/11]
260 \RequirePackage{ifvtex}

```

```

261 \RequirePackage{ifxetex}[2006/08/21]
262 \RequirePackage{hycolor}
263 \RequirePackage{letltxmacro}[2008/06/13]
264 \RequirePackage{auxhook}[2009/12/14]
265 \def\Hy@Error{\@PackageError{hyperref}}
266 \def\Hy@Warning{\@PackageWarning{hyperref}}
267 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
268 \def\Hy@Info{\@PackageInfo{hyperref}}
269 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
270 \def\Hy@Message#1{%
271   \GenericWarning{%
272     (hyperref)\@spaces\@spaces\@spaces\@spaces
273   }{%
274     Package hyperref Message: #1\ltx@gobble
275   }%
276 }

```

## 4.2 Version check

\Hy@VersionChecked

```

277 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

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

```

```

312      * \y: hyperref.sty\MessageBreak
313      * \z: \a
314      }\@ehd
315      \fi
316      \fi
317      }%
318      }%
319      \endgroup
320      \chardef\Hy@VersionChecked=1 %
321      }

```

\Hy@@VersionCheck

```

322 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%
323 \def#1{#2 #3}%
324 }

```

### 4.3 Checks with regular expressions

```

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

```

```

364 \def\ltx@leftbracechar{0}%
365 }%
366 \begingroup
367 \lccode'0='}\relax
368 \lowercase{\endgroup
369 \def\ltx@rightbracechar{0}%
370 }%
371 }%
372 }

```

#### 4.4 Compatibility with format dumps

`\AfterBeginDocument` For use with pre-compiled formats, created using the `ldump` package, there needs to be 2 hooks for adding material delayed until `\begin{document}`. These are called `\AfterBeginDocument` and `\AtBeginDocument`. If `ldump` is not loaded, then a single hook suffices for normal  $\text{\LaTeX}$  processing.

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

```

373 \@ifundefined{AfterBeginDocument}{%
374 \def\AfterBeginDocument{\AtBeginDocument}%
375 }{}%

```

`\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.

```

376 \def\Hy@AtBeginDocument{%
377 \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
378 }

```

`\Hy@AtEndOfPackage`

```

379 \def\Hy@AtEndOfPackage{%
380 \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
381 }

```

`\Hy@AtBeginDocumentHook`

```

382 \let\Hy@AtBeginDocumentHook\ltx@empty

```

`\Hy@AtEndOfPackageHook`

```

383 \let\Hy@AtEndOfPackageHook\ltx@empty

```

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

```

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

```

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

```

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

```

## 4.5 Switches

```
393 \newif\ifHy@stoppedearly
394 \newif\ifHy@typexml
395 \newif\ifHy@activeanchor
396 \newif\ifHy@backref
397 \newif\ifHy@bookmarks
398 \newif\ifHy@bookmarksnumbered
399 \newif\ifHy@bookmarksopen
400 \newif\ifHy@breaklinks
401 \newif\ifHy@pdfcenterwindow
402 \newif\ifHy@CJKbookmarks
403 \newif\ifHy@colorlinks
404 \newif\ifHy@destlabel
405 \newif\ifHy@draft
406 \let\Hy@finaltrue\Hy@draftfalse
407 \let\Hy@finalfalse\Hy@drafttrue
408 \newif\ifHy@pdfescapeform
409 \newif\ifHy@hyperfigures
410 \newif\ifHy@pdfwindow
411 \newif\ifHy@frenchlinks
412 \newif\ifHy@hyperfootnotes
413 \newif\ifHy@hyperindex
414 \newif\ifHy@hypertextnames
415 \newif\ifHy@implicit
416 \newif\ifHy@linktocpage
417 \newif\ifHy@localanchorname
418 \newif\ifHy@pdfmenubar
419 \newif\ifHy@naturalnames
420 \newif\ifHy@nesting
421 \newif\ifHy@pdfnewwindowset
422 \newif\ifHy@pdfnewwindow
423 \newif\ifHy@ocgcolorlinks
424 \newif\ifHy@pageanchor
425 \newif\ifHy@pdfpagelabels
426 \newif\ifHy@pdfpagehidden
427 \newif\ifHy@pdfstring
428 \newif\ifHy@plainpages
429 \newif\ifHy@psize
430 \newif\ifHy@raiselinks
431 \newif\ifHy@seminarslides
432 \newif\ifHy@setpagesize
433 \newif\ifHy@texht
434 \newif\ifHy@psdextra
435 \newif\ifHy@pdftoolbar
436 \newif\ifHy@unicode
437 \newif\ifHy@pdfusetitle
438 \newif\ifHy@verbose
439 \let\Hy@debugtrue\Hy@verbosetrue
440 \let\Hy@debugfalse\Hy@verbosefalse
441 \newif\ifHy@pdfwindowui
442 \newif\ifHy@pdfdisplaydoctitle
443 \newif\ifHy@pdfa
```

Defaults for the switches are now set.

```
444 \Hy@backreffalse
445 \Hy@bookmarksnumberedfalse
446 \Hy@bookmarksopenfalse
```



```

447 \Hy@bookmarkstrue
448 \Hy@breaklinksfalse
449 \Hy@pdfcenterwindowfalse
450 \Hy@CJKbookmarksfalse
451 \Hy@destlabelfalse
452 \Hy@pdfescapeformfalse
453 \Hy@hyperfiguresfalse
454 \Hy@pdffitwindowfalse
455 \Hy@hyperfootnotesttrue
456 \Hy@hyperindextrue
457 \Hy@hypertextnamestrue
458 \Hy@implicitttrue
459 \Hy@linktocpagefalse
460 \Hy@localanchornamefalse
461 \Hy@pdfmenubartrue
462 \Hy@naturalnamesfalse
463 \Hy@nestingfalse
464 \Hy@pdfnewwindowsetfalse
465 \Hy@pdfnewwindowfalse
466 \Hy@pageanchortrue
467 \Hy@pdfpagelabelstrue
468 \Hy@pdfpagehiddenfalse
469 \Hy@pdfstringfalse
470 \Hy@plainpagesfalse
471 \Hy@raiselinksfalse
472 \Hy@setpagesizetrue
473 \Hy@texhtfalse
474 \Hy@psdextrafalse
475 \Hy@pdftoolbartrue
476 \Hy@typexmlfalse
477 \Hy@unicodedefalse
478 \Hy@pdfusetitlefalse
479 \Hy@verbosefalse
480 \Hy@pdfwindowuitrue
481 \Hy@pdfdisplaydoctitlefalse
482 \Hy@pdfafalse

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

485 \newdimen\@linkdim
486 \let\Hy@driver\ltx@empty
487 \let\MaybeStopEarly\relax
488 \newcount\Hy@linkcounter
489 \newcount\Hy@pagecounter
490 \Hy@linkcounter0
491 \Hy@pagecounter0

```

### 5.1 Macros for recursions

```

492 \let\Hy@ReturnEnd\@empty
493 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}

```

```
494 \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.

```
495 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
496 \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`

```
497 \begingroup\expandafter\expandafter\expandafter\endgroup
498 \expandafter\ifx\csname dimexpr\endcsname\relax
499 \def\hypercalcbpdef#1#2{%
500   \begingroup
501     \toks@{}%
502     \HyCal@scan#2\hypercalcbp\@nil
503   \expandafter\endgroup
504   \expandafter\def\expandafter#1\expandafter{\the\toks@}%
505 }%
506 \def\HyCal@scan#1\hypercalcbp#2\@nil{%
507   \toks@\expandafter{\the\toks@ #1}%
508   \ifx\#2\%
509     \else
510       \ltx@ReturnAfterFi{%
511         \HyCal@do#2\@nil
512       }%
513     \fi
514 }
```

```

513 \fi
514 }%
515 \def\HyCal@do#1#2\@nil{%
516 \@ifpackageloaded{calc}{}{%
517 \Hy@Warning{%
518 For calculations \string\hypercalcbp\space needs\MessageBreak
519 package calc or e-TeX%
520 }%
521 }%
522 \setlength{\dimen@}{#1}%
523 \setlength{\dimen@}{0.99626401\dimen@}%
524 \edef\x{%
525 \toks@{%
526 \the\toks@
527 \strip@pt\dimen@
528 }%
529 }\x
530 \HyCal@scan#2\@nil
531 }%
532 \else
533 \def\hypercalcbp#1{%
534 \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
535 }%
536 \def\hypercalcbpdef{\def}%
537 \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 T<sub>E</sub>X'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 T<sub>E</sub>X 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 T<sub>E</sub>X 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 T<sub>E</sub>X, because the tokens have only cat-codes 10 until 12.

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

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

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

```
539 \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 T<sub>E</sub>X escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard L<sup>A</sup>T<sub>E</sub>X behaviour.

```
540 \escapechar'\%
```

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

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

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

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

```
544 \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.

```

545 \ifHy@unicode
546 \edef\8{\string\8}%
547 \edef\9{\string\9}%
548 \fontencoding{PU}%
549 \HyPsd@UTFviii
550 \def\ifpdfstringunicode###1##2{##1}%
551 \else
552 \fontencoding{PD1}%
553 \def\ifpdfstringunicode###1##2{##2}%
554 \fi
555 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
556 \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).

```

557 \@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).

```

558 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

559 \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.

```

560 \let\{\textbraceleft
561 \let\}\textbraceright
562 \let\\\textbackslash
563 \let\#\textnumbersign
564 \let\$\textdollar
565 \let\%\textpercent
566 \let\&\textampersand
567 % \let\~\textasciitilde
568 \let\_ \textunderscore
569 \let\P\textparagraph
570 \let\ldots\textellipsis
571 \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.

```
572 \def\{\pdfstringdefWarn\}%
573 \def\newline{\pdfstringdefWarn\newline}%
```

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

```
574 \def\TeX{\TeX}%
575 \def\LaTeX{\LaTeX}%
576 \def\LaTeXe{%
577   \LaTeX2%
578   \ifHy@unicode\textepsilon\else e\fi
579 }%
580 \def\eTeX{%
581   \ifHy@unicode\textepsilon\else e\fi
582   -\TeX%
583 }%
584 \def\SlTeX{\SlTeX}%
585 \def\MF{Metafont}%
586 \def\MP{Metapost}%
```

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

```
587 \let\fontencoding\@gobble
588 \let\fontfamily\@gobble
589 \let\fontseries\@gobble
590 \let\fontshape\@gobble
591 \let\fontsize\@gobbletwo
592 \let\selectfont\@empty
593 \let\usefont\@gobblefour
594 \let\emph\@firstofone
595 \let\textnormal\@firstofone
596 \let\textrm\@firstofone
597 \let\textsf\@firstofone
598 \let\texttt\@firstofone
599 \let\textbf\@firstofone
600 \let\textmd\@firstofone
601 \let\textit\@firstofone
602 \let\textsc\@firstofone
603 \let\textsl\@firstofone
604 \let\textup\@firstofone
605 \let\normalfont\@empty
606 \let\rmfamily\@empty
607 \let\sffamily\@empty
608 \let\ttfamily\@empty
```

```

609 \let\bfseries\@empty
610 \let\mdseries\@empty
611 \let\itshape\@empty
612 \let\scshape\@empty
613 \let\slshape\@empty
614 \let\upshape\@empty
615 \let\em\@empty
616 \let\rm\@empty
617 \let\Huge\@empty
618 \let\LARGE\@empty
619 \let\Large\@empty
620 \let\footnotesize\@empty
621 \let\huge\@empty
622 \let\large\@empty
623 \let\normalsize\@empty
624 \let\scriptsize\@empty
625 \let\small\@empty
626 \let\tiny\@empty
627 \let\mathversion\@gobble
628 \let\phantom\@gobble
629 \let\vphantom\@gobble
630 \let\hphantom\@gobble

```

#### Package pifont.

```

631 \let\ding\HyPsd@ding
632 \let\Cube\HyPsd@DieFace
633 %* \HyPsd@DieFace -> \epsdice (epsdice)
634 %* \HyPsd@DieFace -> \fcdice (hhcount)

```

#### Environments.

```

635 \def\begin#1{\csname#1\endcsname}%
636 \def\end#1{\csname end#1\endcsname}%

```

#### Package color.

```

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

```

#### Upper- and lowercase.

```

638 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
639 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

640 \ifHy@psdextra
641 \ifHy@unicode
642 \csname psdmapshortnames\endcsname
643 \csname psdaliasnames\endcsname
644 \fi
645 \fi

```

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

```

646 \let\foreignlanguage\@secondoftwo
647 \let\textlatin\@firstofone
648 \ltx@ifundefined{language@group}{\@firstofone}{\@secondoftwo}%

```

```

649 \csname HyPsd@babel@\language@group\endcsname
650 }%
651 \HyPsd@GreekPatch
652 \HyPsd@SpanishPatch
653 \HyPsd@RussianPatch
654 \HyPsd@BabelPatch
655 \let\@safe@activetrue\relax
656 \let\@safe@activesfalse\relax
    Disable \cyr, used in russianb.ldf.
657 \let\cyr\relax
    Redefine \es@roman, used in spanish.ldf.
658 \let\es@roman\@Roman

```

**Package german.**

```

659 \let\glqq\textglqq
660 \let\grqq\textgrqq
661 \let\glq\textglq
662 \let\grq\textgrq
663 \let\flqq\textflqq
664 \let\frqq\textfrqq
665 \let\flq\textflq
666 \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}
667 \let\if@mid@expandable\@firstoftwo

```

**AMS classes.**

```

668 \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.

```

669 \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.

```

670 \let\label\@gobble
671 \let\index\@gobble
672 \let\glossary\@gobble
673 \let\href\HyPsd@href
674 \let\@mkboth\@gobbletwo
    The \ref and \pageref is much more complicate because of their star form.
675 \let\ref\HyPsd@ref
676 \let\pageref\HyPsd@pageref
677 \let\nameref\HyPsd@nameref
678 \let\autoref\HyPsd@autoref

```



### Miscellaneous commands.

```
679 \let\leavevmode\@empty
680 \let\mbox\@empty
```

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

```
681 \def\halign{\pdfstringdefWarn\halign\@gobble}%
682 \let\ignorespaces\HyPsd@ignorespaces
683 \let\Hy@SectionAnchorHref\@gobble
684 \let\ensuremath\@firstofone
```

### Patch for cjk bookmarks.

```
685 \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 `\pdfstringdef-PreHook`.

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`).

```
686 \Hy@pdfstringtrue
687 \pdfstringdefPreHook
```

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

```
688 \HyPsd@LetUnexpandableSpace\space
689 \HyPsd@LetUnexpandableSpace\ %
690 \HyPsd@LetUnexpandableSpace~%
691 \HyPsd@LetUnexpandableSpace\nobreakspace
```

### Package xspace.

```
692 \ltx@ifundefined{@xspace}{%
693 \let\xspace\HyPsd@ITALCORR
694 }{%
695 \let\xspace\HyPsd@XSPACE
696 }%
697 \let\/\HyPsd@ITALCORR
698 \let\bgroup\/%
699 \let\egroup\/%
```

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

```
700 \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:

```

701 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
702 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
703 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
704 \let\@protected@testopt\HyPsd@protected@testopt

```

Support for package ‘xargs’:

```

705 \let\@protected@testopt@xargs\HyPsd@protected@testopt

```

### 6.2.2 Expansion

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

**`\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  $\text{\TeX}$  and reported as errors in order to force the user to write correct things. So he get no wrong results by forgetting the proofreading of his text. But the *disadvantage* is that old wrong code cannot processed without errors. Mainly the error message is very cryptic and for the normal user hard to understand.  $\text{\TeX}$  provides no way to catch the error caused by `\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  $\text{\LaTeX}$ ’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  $\text{\LaTeX}$  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  $\text{\TeX}$ , so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning for the user. As additional features xspace support is possible and grouping characters can be used without problems, because they are removed silently.

**Generic messages.** While expanding via `\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).

```

706 \begingroup
707 \let\GenericError\@gobblefour
708 \let\GenericWarning\@gobbletwo
709 \let\GenericInfo\@gobbletwo

```

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

```

710 \ifx\nofrenchguillemets\@undefined
711 \else
712 \nofrenchguillemets
713 \fi

```

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

```

714 \let\Hy@temp\xdef
715 \let\def\HyPsd@DefCommand
716 \let\gdef\HyPsd@DefCommand
717 \let\edef\HyPsd@DefCommand
718 \let\xdef\HyPsd@DefCommand
719 \let\futurelet\HyPsd@LetCommand
720 \let\let\HyPsd@LetCommand
721 \Hy@temp#1{#2}%
722 \endgroup

```

### 6.2.3 Postprocessing

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

```

723 \ifx#1\@empty
724 \else

```

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

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

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

```

725 \HyPsd@ProtectSpaces#1%
726 \let\HyPsd@String\@empty
727 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
728 \global\let#1\HyPsd@String

```

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

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

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

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

```

729 \let\HyPsd@SPACEOPTI\relax
730 {%
731 \let\HyPsd@String\@empty
732 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
733 \global\let#1\HyPsd@String
734 }%
735 \expandafter\HyPsd@RemoveMask\expandafter
736 |\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.

```

737 \expandafter
738 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
739 \let\HyPsd@String\@empty
740 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
741 \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.

```
742 \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.

```

743 \ifHy@unicode
744 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
745 \HyPsd@SPACEOPTI#1%
746 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
747 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
748 {\HyPsd@SPACEOPTI\80\273}#1%
749 \else
750 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
751 \expandafter\HyPsd@Subst\expandafter{%
752 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
753 \string\273}\HyPsd@SPACEOPTI\273}#1%
754 \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.

```

755 \ifHy@unicode
756 \HyPsd@StringSubst{\}){\80\051}#1%
757 \HyPsd@Subst){\80\051}#1%
758 \let\HyPsd@empty\relax
759 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
760 {\HyPsd@empty\80\051}#1%
761 \else
762 \HyPsd@StringSubst{\}){\051}#1%
763 \HyPsd@Subst){\051}#1%
764 \let\HyPsd@empty\relax
765 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
766 \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`.

```

767 \expandafter\HyPsd@Subst\expandafter{\//}\HyPsd@empty#1%
768 \ltx@ifundefined{@xspace}{%
769 }{%
770 \let\HyPsd@xspace\relax
771 \expandafter\HyPsd@Subst\expandafter
772 {\HyPsd@XSPACE}\HyPsd@xspace#1%
773 \let\HyPsd@xspace\HyPsd@doxspace
774 }%
775 \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.

```

776 \HyPsd@Subst{---}\textemdash#1%
777 \HyPsd@Subst{--}\textendash#1%
778 % \HyPsd@Subst{fi}\textfi#1%
779 % \HyPsd@Subst{fl}\textfl#1%
780 \HyPsd@Subst{!}\textexclamdown#1%
781 \HyPsd@Subst{?}\textquestiondown#1%
```

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

```

782 \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.

```

783 \ifHy@unicode
784 \HyPsd@StringSubst\(\textparenleft#1%
785 \HyPsd@Subst(\textparenleft#1%
786 \else
787 \HyPsd@StringSubst\({\050}#1%
788 \HyPsd@Subst({\050}#1%
789 \HyPsd@StringSubst{\050}{\string\{ }#1%
790 \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.

```

791 \ifHy@unicode
792 \edef\HyPsd@SPACEOPTI{\80\040}%
793 \else
794 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
795 \fi
796 \xdef#1{#1\@empty}%
797 \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.

```

798 \endgroup
799 \begingroup
800 \ifHy@unicode
801 \HyPsd@ConvertToUnicode#1%
```

### Try conversion back to PDFDocEncoding.

```
802 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
803 \ltx@ifundefined{StringEncodingConvertTest}{%
804 }{%
805 \EdefUnescapeString\HyPsd@temp#1%
806 \ifxetex
807 \let\HyPsd@UnescapedString\HyPsd@temp
808 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
809 {utf16be}{ascii-print}{%
810 \EdefEscapeString\HyPsd@temp\HyPsd@temp
811 \global\let#1\HyPsd@temp
812 \HyPsd@EscapeTeX#1%
813 \Hy@unicodedefalse
814 }{%
815 \HyPsd@ToBigChars#1%
816 }%
817 \else
818 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
819 {utf16be}{pdfdoc}{%
820 \EdefEscapeString\HyPsd@temp\HyPsd@temp
821 \global\let#1\HyPsd@temp
822 \HyPsd@EscapeTeX#1%
823 \Hy@unicodedefalse
824 }{}%
825 \fi
826 }%
827 \fi
828 \fi
829 \HyPsd@XeTeXBigCharsfalse
```

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

```
830 \pdfstringdefPostHook#1%
831 \endgroup
832 }
```

`\Hy@pdfstringdef`

```
833 \def\Hy@pdfstringdef#1#2{%
834 \pdfstringdef\Hy@gtemp{#2}%
835 \let#1\Hy@gtemp
836 }
```

## 6.3 Encodings

### 6.3.1 XeTeX

```
837 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
838 \catcode\z@=12 %
839 \ifxetex
840 \expandafter\@firstofone
841 \else
842 \let\HyPsd@XeTeXBigCharstrue\@empty
843 \let\HyPsd@XeTeXBigCharsfalse\@empty
844 \expandafter\@gobble
845 \fi
846 {%
847 \newif\ifHyPsd@XeTeXBigChars
```

```

848 \def\HyPsd@XeTeXBigCharsfalse{%
849   \global\let\ifHyPsd@XeTeXBigChars\iffalse
850 }%
851 \def\HyPsd@XeTeXBigCharstrue{%
852   \global\let\ifHyPsd@XeTeXBigChars\iftrue
853 }%
854 \def\HyPsd@ToBigChars#1{%
855   \ifHyPsd@XeTeXBigChars
856     \EdefEscapeHex\HyPsd@UnescapedString{%
857       \expandafter\@gobbletwo\HyPsd@UnescapedString
858     }%
859     \begingroup
860     \toks@{}%
861     \escapechar=92\relax
862     \let\x\HyPsd@ToBigChar
863     \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
864     \relax\relax\relax\relax\relax\relax\relax
865     \edef\x{%
866       \endgroup
867       \gdef\noexpand#1{\the\toks@}%
868     }%
869     \x
870   \fi
871 }%
872 \def\HyPsd@ToBigChar#1#2#3#4{%
873   \ifx\relax#1\relax
874     \let\x\relax
875   \else
876     \count@=#1#2#3#4\relax
877     \let\y\@empty
878     \lccode\z@=\count@
879     \ifnum\count@=40 % (
880       \let\y\@backslashchar
881     \else
882       \ifnum\count@=41 % )
883         \let\y\@backslashchar
884       \else
885         \ifnum\count@=92 % backslash
886           \let\y\@backslashchar
887         \else
888           \ifnum\count@=10 % newline
889             \edef\y##1{\string\n}%
890           \else
891             \ifnum\count@=13 % carriage return
892               \edef\y##1{\string\r}%
893             \fi
894           \fi
895         \fi
896       \fi
897     \fi
898   \lowercase{%
899     \toks@\expandafter{%
900       \the\expandafter\toks@
901       \y
902       ^^@%
903     }%
904   }%

```



```

905 \fi
906 \x
907 }%
908 }
909 \Hy@temp

```

### 6.3.2 Workaround for package linguex

```

910 \@ifpackageloaded{linguex}{%
911 \let\HyLinguex@OrgB\b
912 \let\HyLinguex@OrgC\c
913 \let\HyLinguex@OrgD\d
914 \def\HyLinguex@Restore{%
915 \let\b\HyLinguex@OrgB
916 \let\c\HyLinguex@OrgC
917 \let\d\HyLinguex@OrgD
918 }%
919 \Hy@AtEndOfPackage{%
920 \pdfstringdefDisableCommands{%
921 \ltx@ifundefined{oldb}{\let\b\oldb}%
922 \ltx@ifundefined{oldc}{\let\c\oldc}%
923 \ltx@ifundefined{oldd}{\let\d\oldd}%
924 }%
925 }%
926 }{%
927 \let\HyLinguex@Restore\relax
928 }%

```

### 6.3.3 Catcodes saving and restoring for .def files

\Hy@SaveCatcodeSettings

```

929 \def\Hy@SaveCatcodeSettings#1{%
930 \expandafter\edef\csname Hy@cat@#1\endcsname{%
931 \endlinechar=\the\endlinechar\relax
932 \catcode32 \the\catcode32\relax % (space)
933 \catcode34 \the\catcode34\relax % "
934 \catcode35 \the\catcode35\relax % #
935 \catcode37 \the\catcode37\relax % (percent)
936 \catcode40 \the\catcode40\relax % (
937 \catcode41 \the\catcode41\relax % )
938 \catcode42 \the\catcode42\relax % *
939 \catcode46 \the\catcode46\relax % .
940 \catcode58 \the\catcode58\relax % :
941 \catcode60 \the\catcode60\relax % <
942 \catcode61 \the\catcode61\relax % =
943 \catcode62 \the\catcode62\relax % >
944 \catcode64 \the\catcode64\relax % @
945 \catcode91 \the\catcode91\relax % [
946 \catcode92 \the\catcode92\relax % \
947 \catcode93 \the\catcode93\relax % ]
948 \catcode123 \the\catcode123\relax % {
949 \catcode124 \the\catcode124\relax % |
950 \catcode125 \the\catcode125\relax % }
951 }%
952 \endlinechar=-1 %
953 \catcode32 10 % (space)
954 \catcode34 12 % "
955 \catcode35 6 % #
956 \catcode37 14 % (percent)

```

```

957 \catcode40 12 % (
958 \catcode41 12 % )
959 \catcode42 12 % *
960 \catcode46 12 % .
961 \catcode58 12 % :
962 \catcode60 12 % <
963 \catcode61 12 % =
964 \catcode62 12 % >
965 \catcode91 12 % [
966 \catcode92 0 % \
967 \catcode93 12 % ]
968 \catcode123 1 % {
969 \catcode124 12 % |
970 \catcode125 2 % }
971 \makeatletter
972 }

```

`\Hy@RestoreCatcodeSettings`

```

973 \def\Hy@RestoreCatcodeSettings#1{%
974   \csname Hy@cat@#1\endcsname
975   \expandafter\let\csname Hy@cat@#1\endcsname\relax
976 }

```

### 6.3.4 PD1 encoding

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

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

```

977 \@ifundefined{T@PD1}{%
978   \Hy@SaveCatcodeSettings{pd1}%
979   \input{pd1enc.def}%
980   \Hy@RestoreCatcodeSettings{pd1}%
981   \HyLinguex@Restore
982 }{}
983 \DeclareFontFamily{PD1}{pdf}{}
984 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
985 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

### 6.3.5 PU encoding

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

`\HyPsd@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`.

```

986 \def\HyPsd@LoadUnicode{%
987   \@ifundefined{T@PU}{%
988     \Hy@SaveCatcodeSettings{pu}%
989     \input{puenc.def}%
990     \Hy@RestoreCatcodeSettings{pu}%
991     \HyLinguex@Restore

```

```

992 }{}%
993 \DeclareFontFamily{PU}{pdf}{}%
994 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
995 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
996 \HyPsd@LoadExtra
997 \let\HyPsd@LoadUnicode\relax
998 }

```

`\HyPsd@LoadExtra`

```

999 \def\HyPsd@LoadExtra{%
1000 \ifHy@psdextra
1001 \ltx@iffileloaded{puenc.def}{%
1002 \Hy@SaveCatcodeSettings{psdextra}%
1003 \input{psdextra.def}%
1004 \Hy@RestoreCatcodeSettings{psdextra}%
1005 \let\HyPsd@LoadExtra\relax
1006 }{}%
1007 \fi
1008 }

```

## 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 arguments, the first contains the string that will be set and processed by  $\TeX$ 's stomach, the second contains the replacement for PDF strings.

```

1009 \def\texorpdfstring{%
1010 \ifHy@pdfstring
1011 \expandafter\@secondoftwo
1012 \else
1013 \expandafter\@firstoftwo
1014 \fi
1015 }

```

### 6.4.2 Hooks for `\pdfstringdef`

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

`\pdfstringdefPostHook`

```

1016 \@ifundefined{pdfstringdefPreHook}{%
1017 \let\pdfstringdefPreHook\@empty
1018 }{}
1019 \@ifundefined{pdfstringdefPostHook}{%
1020 \let\pdfstringdefPostHook\@gobble
1021 }{}

```

`\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`.

```

1022 \def\pdfstringdefDisableCommands{%
1023   \begingroup
1024     \makeatletter
1025     \HyPsd@DisableCommands
1026 }

```

`\HyPsd@DisableCommands`

```

1027 \long\def\HyPsd@DisableCommands#1{%
1028   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
1029   \endgroup
1030 }

```

(Partial) fix for bug in frenchb.ldf 2010/08/21 v2.5a that destroys `\pdfstringdefDisableCommands` after usage in `\AtBeginDocument`.

```

1031 \let\HyPsd@pdfstringdefDisableCommands\pdfstringdefDisableCommands
1032 \AtBeginDocument{%
1033   \@ifundefined{pdfstringdefDisableCommands}{%
1034     \let\pdfstringdefDisableCommands\HyPsd@pdfstringdefDisableCommands
1035   }{}%
1036 }

```

`\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`.

```

1037 \def\pdfstringdefWarn#1{%
1038   \expandafter\noexpand\csname<>\string#1\endcsname
1039 }

```

## 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.

```

1040 \begingroup
1041   \catcode0=12 %
1042   \def\x{\endgroup
1043     \def\HyPsd@ignorespaces{%
1044       \romannumeral\expandafter'\expandafter^^@%

```

```

1045     \romannumeral'^~@%
1046   }%
1047 }%
1048 \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`.

```

1049 \def\HyPsd@BabelPatch{%
1050   \let\HyOrg@languageshorthands\languageshorthands
1051   \let\languageshorthands\HyPsd@LanguageShorthands
1052 }
1053 \begingroup\expandafter\expandafter\expandafter\endgroup
1054 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
1055   \let\HyPsd@langshort@system\@empty
1056   \def\HyPsd@LanguageShorthands#1{%
1057     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
1058       \HyPsd@langshort@system
1059     \expandafter\@gobble
1060   \else
1061     \expandafter\@firstofone
1062   \fi
1063   {%
1064     \HyOrg@languageshorthands{#1}%
1065   }%
1066 }%
1067 \else
1068   \def\HyPsd@LanguageShorthands#1{%
1069     \ifnum\pdf@strcmp{#1}{system}=\z@
1070       \expandafter\@gobble
1071     \else
1072       \expandafter\@firstofone
1073     \fi
1074     {%
1075       \HyOrg@languageshorthands{#1}%
1076     }%
1077   }%
1078 \fi
1079 \def\Hy@temp{%
1080   \@ifpackageloaded{babel}{%
1081     \@ifpackagelater{babel}{2008/03/16}{%
1082       \let\Hy@temp\@empty
1083     }{%
1084       \def\HyPsd@BabelPatch{%
1085         \let\HyOrg@languageshorthands\languageshorthands
1086       }%
1087     }%
1088   }{}%
1089 }

```

```

1090 \Hy@temp
1091 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
1092 \newif\ifHy@next

    Nothing to do for english.

1093 \ltx@ifundefined{danish@sh@}{@sel}{-}{%
1094   \def\HyPsd@babel@danish{%
1095     \declare@shorthand{danish}{-}{-}%
1096     \declare@shorthand{danish}{-}{-}%
1097   }%
1098 }
1099 \ltx@ifundefined{dutch@sh@}{@sel}{-}{%
1100   \def\HyPsd@babel@dutch{%
1101     \declare@shorthand{dutch}{-}{-}%
1102     \declare@shorthand{dutch}{-}{-}%
1103   }%
1104 }
1105 \ltx@ifundefined{finnish@sh@}{@sel}{-}{%
1106   \def\HyPsd@babel@finnish{%
1107     \declare@shorthand{finnish}{-}{-}%
1108   }%
1109 }
1110 \ltx@ifundefined{french@sh@}{@sel}{-}{%
1111   \def\HyPsd@babel@frenchb{%
1112     \def\guill@spacing{ }%
1113   }%
1114 }
1115 \ltx@ifundefined{german@sh@}{@sel}{-}{%
1116   \def\HyPsd@babel@german{%
1117     \declare@shorthand{german}{f}{f}%
1118     \declare@shorthand{german}{-}{-}%
1119     \declare@shorthand{german}{-}{-}%
1120   }%
1121 }
1122 \ltx@ifundefined{macedonian@sh@}{@sel}{-}{%
1123   \def\HyPsd@babel@macedonian{%
1124     \declare@shorthand{macedonian}{-}{-}%
1125     \declare@shorthand{macedonian}{-}{-}%
1126   }%
1127 }{}
1128 \ltx@ifundefined{ngerman@sh@}{@sel}{-}{%
1129   \def\HyPsd@babel@ngerman{%
1130     \declare@shorthand{ngerman}{-}{-}%
1131     \declare@shorthand{ngerman}{-}{-}%
1132   }%
1133 }
1134 \ltx@ifundefined{portuges@sh@}{@sel}{-}{%
1135   \def\HyPsd@babel@portuges{%
1136     \declare@shorthand{portuges}{-}{-}%
1137   }%
1138 }
1139 \ltx@ifundefined{russian@sh@}{@sel}{-}{%
1140   \def\HyPsd@babel@russian{%
1141     \declare@shorthand{russian}{-}{-}%
1142     \declare@shorthand{russian}{-}{-}%
1143   }%
1144 }

```

```

1145 \ltx@ifundefined{slovene@sh@}{}{}%
1146 \def\HyPsd@babel@slovene{%
1147   \declare@shorthand{slovene}{"}|{}%
1148 }%
1149 }

```

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

```

1150 \ltx@ifundefined{spanish@sh@>}{}{}%
1151 \def\HyPsd@babel@spanish{%
1152   \declare@shorthand{spanish}{<<}{\guillemotleft}%
1153   \declare@shorthand{spanish}{>>}{\guillemotright}%
1154   \declare@shorthand{spanish}{"}=}{-}%
1155   \declare@shorthand{spanish}{"}~}{-}%
1156   \declare@shorthand{spanish}{"!}{\textexclamdown}%
1157   \declare@shorthand{spanish}{"?}{\textquestiondown}%
1158 }%
1159 }
1160 \ltx@ifundefined{swedish@sh@}{}{}%
1161 \def\HyPsd@babel@swedish{%
1162   \declare@shorthand{swedish}{"}|{}%
1163   \declare@shorthand{swedish}{"}~}{-}%
1164 }%
1165 }
1166 \ltx@ifundefined{ukrainian@sh@}{}{}%
1167 \def\HyPsd@babel@ukrainian{%
1168   \declare@shorthand{ukrainian}{"}|{}%
1169   \declare@shorthand{ukrainian}{"}~}{-}%
1170 }%
1171 }
1172 \ltx@ifundefined{usorbian@sh@}{}{}%
1173 \def\HyPsd@babel@usorbian{%
1174   \declare@shorthand{usorbian}{"}f}{f}%
1175   \declare@shorthand{usorbian}{"}|{}%
1176 }%
1177 }
1178 \ltx@ifundefined{greek@sh@\string~}{}{}%
1179 \let\HyPsd@GreekPatch\@empty
1180 {}{}%
1181 \def\HyPsd@GreekPatch{%
1182   \let\greeknumeral\HyPsd@greeknumeral
1183   \let\Greeknnumeral\HyPsd@Greeknnumeral
1184 }%
1185 }
1186 \def\HyPsd@greeknumeral#1{%
1187   \HyPsd@GreekNum\@firstoftwo{#1}%
1188 }
1189 \def\HyPsd@Greeknnumeral#1{%
1190   \HyPsd@GreekNum\@secondoftwo{#1}%
1191 }
1192 \def\HyPsd@GreekNum#1#2{%
1193   \ifHy@unicode
1194     \ifnum#2<\@ne
1195       \@arabic{#2}%
1196     \else
1197       \ifnum#2<1000000 %
1198         \HyPsd@@GreekNum#1{#2}%
1199       \else
1200         \@arabic{#2}%

```

```

1201 \fi
1202 \fi
1203 \else
1204 \@arabic{#2}%
1205 \fi
1206 }
1207 \def\HyPsd@@GreekNum#1#2{%
1208 \ifnum#2<\@m
1209 \ifnum#2<10 %
1210 \expandafter\HyPsd@GreekNumI
1211 \expandafter\@gobble\expandafter#1\number#2%
1212 \else
1213 \ifnum#2<100 %
1214 \expandafter\HyPsd@GreekNumII
1215 \expandafter\@gobble\expandafter#1\number#2%
1216 \else
1217 \expandafter\HyPsd@GreekNumIII
1218 \expandafter\@gobble\expandafter#1\number#2%
1219 \fi
1220 \fi
1221 \ifnum#2>\z@
1222 \textnumeralsigngreek
1223 \fi
1224 \else
1225 \ifnum#2<\@M
1226 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1227 \else
1228 \ifnum#2<100000 %
1229 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1230 \else
1231 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1232 \fi
1233 \fi
1234 \fi
1235 }
1236 \def\HyPsd@GreekNumI#1#2#3{%
1237 #1{%
1238 \ifnum#3>\z@
1239 \textnumeralsignlowergreek
1240 \fi
1241 }%
1242 \expandafter#2%
1243 \ifcase#3 %
1244 {}{}%
1245 \or\textalpha\textAlpha
1246 \or\textbeta\textBeta
1247 \or\textgamma\textGamma
1248 \or\textdelta\textDelta
1249 \or\textepsilon\textEpsilon
1250 \or\textstigmagreek\textStigmagreek
1251 \or\textzeta\textZeta
1252 \or\texteta\textEta
1253 \or\texttheta\textTheta
1254 \else
1255 {}{}%
1256 \fi
1257 }

```



```

1258 \def\HyPsd@GreekNumII#1#2#3#4{%
1259   #1{%
1260     \ifnum#3>\z@
1261       \textnumeralsignlowergreek
1262     \fi
1263   }%
1264   \expandafter#2%
1265   \ifcase#3 %
1266     {}{}%
1267     \or\textiota\textIota
1268     \or\textkappa\textKappa
1269     \or\textlambda\textLambda
1270     \or\textmu\textMu
1271     \or\textnu\textNu
1272     \or\textxi\textXi
1273     \or\textomicron\textOmicron
1274     \or\textpi\textPi
1275     \or\textkoppagreek\textKoppagreek
1276     \else
1277       {}{}%
1278     \fi
1279   \HyPsd@GreekNumI#1#2#4%
1280 }
1281 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1282   #1{%
1283     \ifnum#3>\z@
1284       \textnumeralsignlowergreek
1285     \fi
1286   }%
1287   \expandafter#2%
1288   \ifcase#3 %
1289     {}{}%
1290     \or\extrho\textRho
1291     \or\textsigma\textSigma
1292     \or\texttau\textTau
1293     \or\textupsilon\textUpsilon
1294     \or\textphi\textPhi
1295     \or\textchi\textChi
1296     \or\textpsi\textPsi
1297     \or\textomega\textOmega
1298     \or\textsampigreek\textSampigreek
1299     \else
1300       {}{}%
1301     \fi
1302   \HyPsd@GreekNumII#1#2#4#5%
1303 }
1304 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1305   \HyPsd@GreekNumI\@firstofone#1#2%
1306   \HyPsd@@@GreekNum#1{#3#4#5}%
1307 }
1308 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1309   \HyPsd@GreekNumII\@firstofone#1#2#3%
1310   \HyPsd@@@GreekNum#1{#4#5#6}%
1311 }
1312 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1313   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1314   \HyPsd@@@GreekNum#1{#5#6#7}%

```

```

1315 }
1316 \def\HyPsd@SpanishPatch{%
1317 \ltx@ifundefined{es@save@dot}{%
1318 }{%
1319 \let\.\es@save@dot
1320 }%
1321 }

```

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

```

1322 \def\HyPsd@RussianPatch{%
1323 \ltx@ifundefined{russian@sh@"@-@}{%
1324 }{%
1325 \@namedef{russian@sh@"@-@}{-}%
1326 }%
1327 }

```

### 6.5.3 CJK patch

```

1328 \RequirePackage{intcalc}[2007/09/27]

\HyPsd@CJKhook

1329 \def\HyPsd@CJKhook{%
1330 \ltx@ifpackageloaded{CJK}{%
1331 \let\CJK@kern\relax
1332 \let\CJKkern\relax
1333 \let\CJK@CJK\relax
1334 \ifHy@CJKbookmarks
1335 \HyPsd@CJKhook@bookmarks
1336 \fi
1337 \HyPsd@CJKhook@unicode
1338 }{%
1339 }

```

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

```

1340 \begingroup
1341 \catcode"7F=\active
1342 \toks@{%
1343 \let\CJK@ignorespaces\empty
1344 \def\CJK@char#1{\@gobbletwo}%
1345 \let\CJK@charx\@gobblefour
1346 \let\CJK@punctchar\@gobblefour
1347 \def\CJK@punctcharx#1{\@gobblefour}%
1348 \catcode"7F=\active
1349 \def^^7f#1^^7f#2^^7f{%
1350 \string #1\HyPsd@DecimalToOctal{#2}%

```

```

1351 }%
1352 % ... ?
1353 \ifHy@unicode
1354 \def\Hy@cjkpu{\80}%
1355 \else
1356 \let\Hy@cjkpu\@empty
1357 \fi
1358 \HyPsd@CJKActiveChars
1359 }%
1360 \count@=127 %
1361 \@whilenum\count@<255 \do{%
1362 \advance\count@ by 1 %
1363 \lccode'\~=\count@
1364 \lowercase{%
1365 \toks@\expandafter{\the\toks@ ~}%
1366 }%
1367 }%
1368 \toks@\expandafter{\the\toks@ !}%
1369 \xdef\HyPsd@CJKhook@bookmarks{%
1370 \the\toks@
1371 }%
1372 \endgroup

```

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

```

1373 \def\HyPsd@CJKActiveChars#1{%
1374 \ifx#1!%
1375 \let\HyPsd@CJKActiveChars\relax
1376 \else
1377 \edef#1{\noexpand\Hy@cjkpu\string#1}%
1378 \fi
1379 \HyPsd@CJKActiveChars
1380 }

```

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

```

1381 \def\HyPsd@DecimalToOctal#1{%
1382 \ifcase #1 %
1383 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1384 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1385 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1386 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1387 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1388 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1389 \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1390 \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1391 \or @\or A\or B\or C\or D\or E\or F\or G%
1392 \or H\or I\or J\or K\or L\or M\or N\or O%
1393 \or P\or Q\or R\or S\or T\or U\or V\or W%
1394 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1395 \or \140\or a\or b\or c\or d\or e\or f\or g%
1396 \or h\or i\or j\or k\or l\or m\or n\or o%
1397 \or p\or q\or r\or s\or t\or u\or v\or w%
1398 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1399 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1400 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1401 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1402 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%

```

```

1403 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1404 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1405 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1406 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1407 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1408 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1409 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1410 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1411 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1412 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1413 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1414 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1415 \fi
1416 }

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1417 \def\HyPsd@CJKhook@unicode{%
1418 \let\Unicode\HyPsd@CJK@Unicode
1419 \let\CJKnumber\HyPsd@CJKnumber
1420 \let\CJKdigits\HyPsd@CJKdigits
1421 }

```

\HyPsd@CJK@Unicode

```

1422 \def\HyPsd@CJK@Unicode#1#2{%
1423 \ifnum#1<256 %
1424 \HyPsd@DecimalToOctalFirst{#1}%
1425 \HyPsd@DecimalToOctalSecond{#2}%
1426 \else
1427 \933%
1428 \expandafter\expandafter\expandafter\HyPsd@HighA
1429 \intcalcDiv{#1}{4}!%
1430 \933%
1431 \ifcase\intcalcMod{#1}{4} %
1432 4\or 5\or 6\or 7%
1433 \fi
1434 \HyPsd@DecimalToOctalSecond{#2}%
1435 \fi
1436 }

1437 \def\HyPsd@HighA#1!{%
1438 \expandafter\expandafter\expandafter\HyPsd@HighB
1439 \IntCalcDiv#1!64!!%
1440 \expandafter\expandafter\expandafter\HyPsd@HighD
1441 \IntCalcMod#1!64!!%
1442 }
1443 \def\HyPsd@HighB#1!{%
1444 \expandafter\expandafter\expandafter\HyPsd@HighC
1445 \IntCalcDec#1!!%
1446 }
1447 \def\HyPsd@HighC#1!{%
1448 \IntCalcDiv#1!4!%
1449 \@backslashchar
1450 \IntCalcMod#1!4!%
1451 }
1452 \def\HyPsd@HighD#1!{%

```

```

1453 \ifcase\IntCalcDiv#1!8! %
1454 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1455 \fi
1456 \ifcase\IntCalcMod#1!8! %
1457 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1458 \fi
1459 }
1460 \def\HyPsd@DecimalToOctalFirst#1{%
1461 \9%
1462 \ifcase#1 %
1463 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1464 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1465 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1466 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1467 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1468 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1469 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1470 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1471 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1472 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1473 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1474 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1475 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1476 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1477 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1478 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1479 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1480 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1481 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1482 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1483 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1484 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1485 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1486 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1487 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1488 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1489 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1490 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1491 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1492 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1493 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1494 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1495 \fi
1496 }
1497 \def\HyPsd@DecimalToOctalSecond#1{%
1498 \ifcase #1 %
1499 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1500 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1501 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1502 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1503 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1504 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1505 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1506 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1507 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1508 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1509 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%

```

```

1510 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1511 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1512 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1513 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1514 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1515 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1516 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1517 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1518 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1519 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1520 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1521 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1522 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1523 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1524 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1525 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1526 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1527 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1528 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1529 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1530 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1531 \fi
1532 }

1533 \def\HyPsd@CJkNumber#1{%
1534 \ifnum#1<\z@
1535 \CJk@minus
1536 \expandafter\HyPsd@@CJkNumber\expandafter{\number-\number#1}%
1537 \else
1538 \expandafter\HyPsd@@CJkNumber\expandafter{\number#1}%
1539 \fi
1540 }

1541 \def\HyPsd@@CJkNumber#1{%
1542 \ifcase#1 %
1543 \CJk@zero\or\CJk@one\or\CJk@two\or\CJk@three\or\CJk@four\or
1544 \CJk@five\or\CJk@six\or\CJk@seven\or\CJk@eight\or\CJk@nine\or
1545 \CJk@ten\or\CJk@ten\CJk@one\or\CJk@ten\CJk@two\or
1546 \CJk@ten\CJk@three\or\CJk@ten\CJk@four\or\CJk@ten\CJk@five\or
1547 \CJk@ten\CJk@six\or\CJk@ten\CJk@seven\or\CJk@ten\CJk@eight\or
1548 \CJk@ten\CJk@nine
1549 \else
1550 \ifnum#1<10000 %
1551 \HyPsd@CJkNumberFour#1!\@empty{20}%
1552 \@empty
1553 \else
1554 \ifnum#1<100000000 %
1555 \expandafter\expandafter\expandafter\HyPsd@CJkNumberFour
1556 \IntCalcDiv#1!10000!%
1557 !{}{20}%
1558 \CJk@tenthousand
1559 \expandafter\expandafter\expandafter\HyPsd@CJkNumberFour
1560 \IntCalcMod#1!10000!%
1561 !\CJk@zero{10}%
1562 \@empty
1563 \else
1564 \expandafter\HyPsd@CJkNumberLarge
1565 \number\IntCalcDiv#1!100000000!\expandafter!%
1566 \number\IntCalcMod#1!100000000!!%

```

```

1567 \fi
1568 \fi
1569 \fi
1570 }
1571 \def\HyPsd@CJKnumberLarge#1!#2!{%
1572 \HyPsd@CJKnumberFour#1!{}{20}%
1573 \CJK@hundredmillion
1574 \ifnum#2=\z@
1575 \else
1576 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1577 \IntCalcDiv#2!10000!%
1578 !\CJK@zero{10}%
1579 \CJK@tenthousand
1580 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1581 \IntCalcMod#2!10000!%
1582 !\CJK@zero{10}%
1583 \@empty
1584 \fi
1585 }
1586 \def\HyPsd@CJKnumberFour#1!#2#3{%
1587 \ifnum#1=\z@
1588 \expandafter\@gobble
1589 \else
1590 \ifnum#1<1000 %
1591 #2%
1592 \HyPsd@CJKnumberThree#1!{}{#3}%
1593 \else
1594 \HyPsd@@@CJKnumber{\IntCalcDiv#1!1000!}%
1595 \CJK@thousand
1596 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1597 \IntCalcMod#1!1000!%
1598 !\CJK@zero{10}%
1599 \fi
1600 \fi
1601 }
1602 \def\HyPsd@CJKnumberThree#1!#2#3{%
1603 \ifnum#1=\z@
1604 \else
1605 \ifnum#1<100 %
1606 #2%
1607 \HyPsd@CJKnumberTwo#1!{}{#3}%
1608 \else
1609 \HyPsd@@@CJKnumber{\IntCalcDiv#1!100!}%
1610 \CJK@hundred
1611 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1612 \IntCalcMod#1!100!%
1613 !\CJK@zero{10}%
1614 \fi
1615 \fi
1616 }
1617 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1618 \ifnum#1=\z@
1619 \else
1620 \ifnum#1<#3 %
1621 #2%
1622 \HyPsd@@@CJKnumber{#1}%
1623 \else

```

```

1624 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1625 \CJK@ten
1626 \ifnum\IntCalcMod#1!10!=\z@
1627 \else
1628 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1629 \fi
1630 \fi
1631 \fi
1632 }

1633 \def\HyPsd@CJKdigits#1{%
1634 \ifx*#1\relax
1635 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1636 \else
1637 \HyPsd@@CJKdigits\CJK@null{#1}%
1638 \fi
1639 }

1640 \def\HyPsd@@CJKdigits#1#2{%
1641 \ifx\#2\%
1642 \else
1643 \HyPsd@@@CJKdigits#1#2\@nil
1644 \fi
1645 }%
1646 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1647 \HyPsd@CJKdigit#1{#2}%
1648 \ifx\#3\%
1649 \expandafter\@gobble
1650 \else
1651 \expandafter\@firstofone
1652 \fi
1653 {%
1654 \HyPsd@@@CJKdigits#1#3\@nil
1655 }%
1656 }

1657 \def\HyPsd@CJKdigit#1#2{%
1658 \ifcase#2 %
1659 #1\or
1660 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1661 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1662 \fi
1663 }

```

### 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 `\@typeset-protect` ( $=\text{\relax}$ ).

```

\def\@current@cmd#1{%
\ifx\protect\@typeset@protect
\@inmathwarn#1%
\else

```



```

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

1664 \def\HyPsd@inmathwarn#1#2{%
1665 \ifx#2\expandafter
1666 \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1667 \HyPsd@GLYPHERR
1668 \expandafter\@gobble\string#1%
1669 >%
1670 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1671 \else
1672 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1673 \fi
1674 \else
1675 \expandafter#2%
1676 \fi
1677 }
1678 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1679 \def\HyPsd@EndWithElse#1\else\else}

\HyPsd@add@accent

1680 \def\HyPsd@add@accent#1#2{%
1681 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1682 #2%
1683 }%

```

### 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`.

```
1684 \def\HyPsd@LetUnexpandableSpace#1{%
1685   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1686 }
```

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

```
1687 \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.

```
1688 \edef\HyPsd@XSPACE{\string#\string X}
1689 \edef\HyPsd@ITALCORR{\string#\string I}
1690 \edef\HyPsd@GLYPHERR{\string#\string G}
```

### 6.5.9 `\hspace` fix

`\HyPsd@hspace`

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

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

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

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

```
1699 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

### 6.5.10 Fix for AMS classes

```
1700 \ltx@ifundefined{tocsection}{%
1701   \let\HyPsd@AMSclassfix\relax
1702 }{%
1703   \def\HyPsd@AMSclassfix{%
1704     \let\tocpart\HyPsd@tocsection
1705     \let\tocchapter\HyPsd@tocsection
1706     \let\tocappendix\HyPsd@tocsection
1707     \let\tocsection\HyPsd@tocsection
1708     \let\tocsubsection\HyPsd@tocsection
1709     \let\tocsubsubsection\HyPsd@tocsection
1710     \let\tocparagraph\HyPsd@tocsection
1711   }%
1712   \def\HyPsd@tocsection#1#2#3{%
1713     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
```

```

1714   #3%
1715 }%
1716 }

```

### 6.5.11 Reference commands

`\HyPsd@href`

```
1717 \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.

```
1718 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```

1719 \def\HyPsd@@ref#1*#2\END{%
1720   \ifx\#2\%
1721     \HyPsd@@@ref{#1}%
1722   \else
1723     \expandafter\HyPsd@@@ref
1724   \fi
1725 }%

```

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

```

1726 \def\HyPsd@@@ref#1{%
1727   \expandafter\ifx\csname r@#1\endcsname\relax
1728     ??%
1729   \else
1730     \expandafter\expandafter\expandafter
1731     \@car\csname r@#1\endcsname\@nil
1732   \fi
1733 }

```

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

```
1734 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```

1735 \def\HyPsd@@pageref#1*#2\END{%
1736   \ifx\#2\%
1737     \HyPsd@@@pageref{#1}%
1738   \else
1739     \expandafter\HyPsd@@@pageref
1740   \fi
1741 }

```

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

```

1742 \def\HyPsd@@@pageref#1{%
1743   \expandafter\ifx\csname r@#1\endcsname\relax
1744     ??%
1745   \else
1746     \expandafter\expandafter\expandafter\expandafter
1747     \expandafter\expandafter\expandafter\@car
1748     \expandafter\expandafter\expandafter\@gobble
1749     \csname r@#1\endcsname{}\@nil
1750   \fi
1751 }

```

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

```

1752 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1753 \def\HyPsd@@nameref#1*#2\END{%
1754   \ifx\#2\%
1755     \HyPsd@@@nameref{#1}%
1756   \else
1757     \expandafter\HyPsd@@@nameref
1758   \fi
1759 }

```

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

```

1760 \def\HyPsd@@@nameref#1{%
1761   \expandafter\ifx\csname r@#1\endcsname\relax
1762     ??%
1763   \else
1764     \expandafter\expandafter\expandafter\expandafter
1765     \expandafter\expandafter\expandafter\@car
1766     \expandafter\expandafter\expandafter\@gobbletwo
1767     \csname r@#1\endcsname{}\}\@nil
1768   \fi
1769 }

```

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

```

1770 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1771 \def\HyPsd@@autoref#1*#2\END{%
1772   \ifx\#2\%
1773     \HyPsd@@@autoref{#1}%
1774   \else
1775     \expandafter\HyPsd@@@autoref
1776   \fi
1777 }

```

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

```

1778 \def\HyPsd@@@autoref#1{%
1779   \expandafter\ifx\csname r@#1\endcsname\relax
1780     ??%
1781   \else
1782     \expandafter\expandafter\expandafter\HyPsd@autorefname
1783     \csname r@#1\endcsname{}\}\}\@nil
1784   \expandafter\expandafter\expandafter
1785   \@car\csname r@#1\endcsname\@nil
1786   \fi
1787 }

```

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

```

1788 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1789   \ifx\#4\%
1790   \else
1791     \HyPsd@@@autorefname#4.\@nil
1792   \fi
1793 }

```

`\HyPsd@@autorefname`

```

1794 \def\HyPsd@@autorefname#1.#2\@nil{%
1795   \ltx@ifundefined{#1autorefname}{}%
1796   \ltx@ifundefined{#1name}{}%
1797   }{%
1798     \csname#1name\endcsname\space
1799   }%
1800 }{%
1801   \csname#1autorefname\endcsname\space
1802 }%
1803 }

```

## 6.5.12 Redefining the defining commands

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

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

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

The command to be defined is converted to a string and back to a command name with the help of `\csname`. If the command is already defined, `\noexpand` prevents a further expansion, even though the command would expand to legal stuff. If the command 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 `\HyPsd@LetCommand` is that the first one also cancels this arguments, the parameter and definition text. The right side of the `\let` commands cannot be canceled with an undelimited parameter because of a possible space token after `\futurelet`.

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

`\HyPsd@DefCommand`  
`\HyPsd@LetCommand`

```

1804 \begingroup
1805   \def\x#1#2{%
1806     \endgroup
1807     \let#1\def
1808     \def\HyPsd@DefCommand##1##2###{%
1809       #1%
1810       \expandafter\noexpand
1811       \csname\expandafter\@gobble\string##1\empty\endcsname
1812       \@gobble
1813     }%
1814     \let#2\let
1815     \def\HyPsd@@LetCommand##1{%

```

```

1816 \expandafter\ifx\csname##1\expandafter\endcsname
1817     \csname iftrue\endcsname
1818     \pdfstringdefWarn\let
1819     \expandafter\@gobble
1820 \else
1821     \expandafter\ifx\csname##1\expandafter\endcsname
1822     \csname iffalse\endcsname
1823     \pdfstringdefWarn\let
1824     \expandafter\expandafter\expandafter\@gobble
1825 \else
1826     #2%
1827     \expandafter\noexpand
1828     \csname##1\expandafter\expandafter\expandafter\endcsname
1829 \fi
1830 \fi
1831 }%
1832 }%
1833 \expandafter\x\csname <def>-command\expandafter\endcsname
1834     \csname <let>-command\endcsname
1835 \def\HyPsd@LetCommand#1{%
1836     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1837     \expandafter\expandafter\expandafter{%
1838     \expandafter\@gobble\string#1\@empty
1839 }%
1840 }

```

### 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).

```

1841 \def\HyPsd@ifnextchar#1{%
1842     \pdfstringdefWarn#1%
1843     \expandafter\@gobbletwo\@gobble
1844 }

```

### 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`.

```

1845 \def\HyPsd@protected@testopt#1{%
1846     \pdfstringdefWarn#1%
1847     \@gobbletwo
1848 }

```

## 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:

```
1849 \def\HyPsd@Warning#1{%
1850   \begingroup
1851   \let\space\ltx@space
1852   \Hy@Warning{#1}%
1853   \endgroup
1854 }
```

### 6.6.2 Protecting spaces

```
1855 \RequirePackage{etexcmds}[2007/09/09]
1856 \ifetex@unexpanded
1857   \expandafter\@secondoftwo
1858 \else
1859   \expandafter\@firstoftwo
1860 \fi
1861 {%
```

`\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`.

```
1862 \def\HyPsd@ProtectSpaces#1{%
1863   \iftrue
1864     \expandafter\HyPsd@@ProtectSpacesFi
1865     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1866   \fi
1867 }%
```

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

```
1868 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1869   \fi
1870   \ifx\scrollmode#2\scrollmode
1871     \HyPsd@RemoveMask#1\HyPsd@End#3%
1872   \else
1873     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1874     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1875   \fi
1876 }%
```

### 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.

```
1877 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1878   \toks@\expandafter{#1}%
1879   \xdef#2{\the\toks@}%
1880 }%
```

```

1881 }{%
1882 \let\HyPsd@fi\fi
1883 \def\HyPsd@ProtectSpaces#1{%
1884 \xdef#1{%
1885 \iftrue
1886 \expandafter\HyPsd@@ProtectSpacesFi
1887 \expandafter|\expandafter\@empty#1| %
1888 \HyPsd@fi
1889 }%
1890 \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1891 }%
1892 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1893 \fi
1894 \etex@unexpanded{#1}%
1895 \ifx\scrollmode#2\scrollmode
1896 \else
1897 \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1898 \HyPsd@fi
1899 }%
1900 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1901 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1902 }%
1903 }

```

### 6.6.3 Remove grouping braces

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

```

1904 \def\HyPsd@RemoveBraces#1{%
1905 \ifx\scrollmode#1\scrollmode
1906 \else
1907 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1908 \fi
1909 }

```

`\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`.

```

1910 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1911 \fi
1912 \def\Hy@temp@A{#1#2}%
1913 \def\Hy@temp@B{#3}%
1914 \ifx\Hy@temp@A\Hy@temp@B
1915 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1916 \HyPsd@String#1%
1917 }%
1918 \ifx\scrollmode#2\scrollmode
1919 \else
1920 \Hy@ReturnAfterFiFiEnd{%

```



```

1921     \HyPsd@RemoveBraces{#2}%
1922   }%
1923   \fi
1924   \else
1925     \def\Hy@temp@A{#1}%
1926     \HyPsd@AppendItalcorr\HyPsd@String
1927     \ifx\Hy@temp@A\@empty
1928       \Hy@ReturnAfterElseFiFiEnd{%
1929         \HyPsd@RemoveBraces{#2}%
1930       }%
1931     \else
1932       \HyPsd@ProtectSpaces\Hy@temp@A
1933       \HyPsd@AppendItalcorr\Hy@temp@A
1934       \Hy@ReturnAfterFiFiEnd{%
1935         \expandafter\HyPsd@RemoveBraces\expandafter
1936         {\Hy@temp@A#2}%
1937       }%
1938     \fi
1939   \fi
1940   \Hy@ReturnEnd
1941 }

```

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

```

1942 \def\HyPsd@AppendItalcorr#1{%
1943   \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1%
1944 }
1945 \def\HyPsd@@AppendItalcorr#1#2{%
1946   \expandafter\def\expandafter#2\expandafter{#2#1}%
1947 }

```

#### 6.6.4 Catcode check

**Workaround for LuaTeX.** `\HyPsd@CheckCatcodes` might trigger a bug of LuaTeX (0.60.2, 0.70.1, 0.70.2, ...) in the comparison with `\ifcat`, see <http://tracker.luatex.org/view.php?id=773>.

```

1948 \ltx@ifundefined{directlua}{%
1949 }{%
1950   \expandafter\ifx\csname\endcsname\relax\fi
1951 }

```

#### 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`).

For the comparison with active characters, `~` cannot be used because it has the meaning of a blank space here. And active characters need to be checked, if they have been defined using `\protected`.

```

1952 \begingroup
1953 \catcode'\Q=\active
1954 \let Q\ltx@empty
1955 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@end{%
1956 \global\let\HyPsd@Rest\relax
1957 \ifcat\relax\noexpand#1\relax
1958 \ifx#1\protect
1959 \else
1960 \ifx#1\penalty
1961 \setbox\z@=\hbox{%
1962 \afterassignment\HyPsd@AfterCountRemove
1963 \count@=#2\HyPsd@end
1964 }%
1965 \else
1966 \ifx#1\kern
1967 \setbox\z@=\hbox{%
1968 \afterassignment\HyPsd@AfterDimenRemove
1969 \dimen@=#2\HyPsd@end
1970 }%
1971 \else
1972 \ifx#1\hskip
1973 \setbox\z@=\hbox{%
1974 \afterassignment\HyPsd@AfterSkipRemove
1975 \skip@=#2\HyPsd@end
1976 }%
1977 \else
1978 \HyPsd@CatcodeWarning{#1}%
1979 \fi
1980 \fi
1981 \fi
1982 \fi
1983 \else
1984 \ifcat\noexpand#1\noexpandQ% active character
1985 \expandafter\expandafter\expandafter\def
1986 \expandafter\expandafter\expandafter\HyPsd@String
1987 \expandafter\expandafter\expandafter{%
1988 \expandafter\HyPsd@String\string#1%
1989 }%
1990 \else
1991 \ifcat#1A% letter
1992 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1993 \HyPsd@String#1%
1994 }%
1995 \else
1996 \ifcat#1 % SPACE
1997 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1998 \HyPsd@String\HyPsd@SPACEOPTI
1999 }%
2000 \else
2001 \ifcat$#1%
2002 \HyPsd@CatcodeWarning{math shift}%
2003 \else
2004 \ifcat&#1%
2005 \HyPsd@CatcodeWarning{alignment tab}%
2006 \else
2007 \ifcat^#1%
2008 \HyPsd@CatcodeWarning{superscript}%

```

```

2009         \else
2010         \ifcat_#1%
2011         \HyPsd@CatcodeWarning{subscript}%
2012         \else
2013         \expandafter\def\expandafter\HyPsd@String\expandafter{%
2014         \HyPsd@String#1%
2015         }%
2016         \fi
2017     \fi
2018 \fi
2019 \fi
2020 \fi
2021 \fi
2022 \fi
2023 \fi
2024 \ifx\HyPsd@Rest\relax
2025 \ifx\scrollmode#2\scrollmode
2026 \else
2027 \Hy@ReturnAfterFiFiEnd{%
2028 \HyPsd@CheckCatcodes#2\HyPsd@End
2029 }%
2030 \fi
2031 \else
2032 \ifx\HyPsd@Rest\@empty
2033 \else
2034 \Hy@ReturnAfterFiFiEnd{%
2035 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
2036 }%
2037 \fi
2038 \fi
2039 \Hy@ReturnEnd
2040 }%
2041 \endgroup

```

### Remove counts, dimens, skips.

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

```

2042 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
2043 \gdef\HyPsd@Rest{#1}%
2044 }

```

`\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.

```

2045 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
2046 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
2047 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
2048 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
2049 \else
2050 \ifdim\dimen@=\z@
2051 \else
2052 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
2053 \fi
2054 \gdef\HyPsd@Rest{#1}%
2055 \fi
2056 }

```

`\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).

```

2057 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
2058   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@\fi>lex %
2059   \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
2060   \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
2061   \else
2062     \ifdim\skip@=\z@
2063     \else
2064       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
2065     \fi
2066     \gdef\HyPsd@Rest{#1}%
2067   \fi
2068 }

```

### Catcode warnings.

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

```

2069 \def\HyPsd@CatcodeWarning#1{%
2070   \HyPsd@Warning{%
2071     Token not allowed in a PDF string (%)
2072     \ifHy@unicode
2073       Unicode%
2074     \else
2075       PDFDocEncoding%
2076     \fi
2077   }:%
2078   \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
2079 }%
2080 }
2081 \begingroup
2082 \catcode'\|=0 %
2083 \catcode'\|=12 %
2084 \gdef\HyPsd@RemoveCmdPrefix#1{%
2085   \expandafter\HyPsd@@RemoveCmdPrefix
2086     \string#1\@empty\<>- \@empty\@empty
2087 }%
2088 \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2\@empty#3\@empty{#1#2}%
2089 \endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

2090 \def\HyPsd@RemoveSpaceWarning#1{%
2091   \HyPsd@Warning{%
2092     Token not allowed in a PDF string (%)
2093     \ifHy@unicode
2094       Unicode%
2095     \else
2096       PDFDocEncoding%
2097     \fi
2098   }:%
2099   \MessageBreak #1\MessageBreak
2100   removed%
2101 }%
2102 }

```

`\HyPsd@ReplaceSpaceWarning`

```

2103 \def\HyPsd@ReplaceSpaceWarning#1{%
2104   \HyPsd@Warning{%
2105     Token not allowed in a PDF string (%
2106     \ifHy@unicode
2107       Unicode%
2108     \else
2109       PDFDocEncoding%
2110     \fi
2111   ):%
2112   \MessageBreak #1\MessageBreak
2113   replaced by space%
2114 }%
2115 }

```

### 6.6.5 Check for wrong glyphs

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

```

2116 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2117   \expandafter\def\expandafter\HyPsd@String\expandafter{%
2118     \HyPsd@String#1%
2119   }%
2120   \ifx\#2\%
2121   \else
2122     \ltx@ReturnAfterFi{%
2123       \HyPsd@GlyphProcessWarning#2\@empty
2124     }%
2125   \fi
2126 }
2127 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2128   \HyPsd@@@GlyphProcessWarning#1++>%
2129   \HyPsd@GlyphProcess#2\@empty
2130 }
2131 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
2132   \ifx\#2\%
2133     \HyPsd@Warning{%
2134       Glyph not defined in %
2135       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2136       removing '@backslashchar#1'%
2137     }%
2138   \else
2139     \HyPsd@Warning{%
2140       Composite letter '@backslashchar#1+#2'\MessageBreak
2141       not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2142       \MessageBreak
2143       removing '@backslashchar#1'%
2144     }%
2145   \fi
2146 }

```

### 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`.

```

2147 \def\HyPsd@spaceopti#1{ % first space
2148   \ifx\HyPsd@spaceopti#1%
2149     \040%
2150   \else
2151     #1%
2152   \fi
2153 }%

```

### 6.6.6 Replacing tokens

`\HyPsd@Subst` To save tokens `\HyPsd@StringSubst` is an wrapper for the command `\HyPsd@Subst` that does all the work: In string stored in command `#3` it replaces the tokens `#1` with `#2`.

`#1` Exact the tokens that should be replaced.  
`#2` The replacement (don't need to be expanded).  
`#3` Command with the string.

```

2154 \def\HyPsd@Subst#1#2#3{%
2155   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
2156     \fi
2157     ##1%
2158     \ifx\scrollmode##2\scrollmode
2159     \else
2160       #2%
2161       \HyPsd@@ReplaceFi##2\END
2162     \fi
2163   }%
2164   \xdef#3{%
2165     \iftrue
2166       \expandafter\HyPsd@@ReplaceFi#3#1\END
2167     \fi
2168   }%
2169 }

```

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

```

2170 \def\HyPsd@StringSubst#1{%
2171   \expandafter\HyPsd@Subst\expandafter{\string#1}%
2172 }

```

`\HyPsd@EscapeTeX`

```

2173 \begingroup
2174   \lccode'\!='\%%
2175   \lccode'\|='\%%
2176   \lccode'\(='\{%
2177   \lccode'\)='\}%
2178   \lccode'0=\ltx@zero
2179   \lccode'1=\ltx@zero
2180   \lccode'3=\ltx@zero
2181   \lccode'4=\ltx@zero
2182   \lccode'5=\ltx@zero
2183   \lccode'7=\ltx@zero
2184 \lowercase{\endgroup}
2185 \def\HyPsd@EscapeTeX#1{%
2186   \HyPsd@Subst!{|045}#1%
2187   \HyPsd@Subst({|173}#1%
2188   \HyPsd@Subst)|175}#1%
2189 }%

```

2190 }

### 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.

```

2191 \def\HyPsd@doboxspace#1{%
2192   \ifx#1\relax\else
2193   \ifx#1.\else
2194   \ifx#1:\else
2195   \ifx#1,\else
2196   \ifx#1;\else
2197   \ifx#1!\else
2198   \ifx#1?\else
2199   \ifx#1/\else
2200   \ifx#1-\else
2201   \ifx#1'\else
2202     \HyPsd@SPACEOPTI
2203   \fi
2204   \fi
2205   \fi
2206   \fi
2207   \fi
2208   \fi
2209   \fi
2210   \fi
2211   \fi
2212   \fi
2213   #1%
2214 }%
```

### 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.

```

2215 \begingroup
2216   \catcode'\|=0 %
2217   \catcode'\|=12 %
```

`\HyPsd@ConvertToUnicode`

```

2218 |gdef\HyPsd@ConvertToUnicode#1{%
2219   |xdef#1{%
2220     |expandafter\HyPsd@DoConvert#1|@empty|@empty|@empty
2221   }%
2222   |ifx#1|@empty
2223   |else
2224     |xdef#1{%
2225       \376\377%
2226       #1%
2227     }%
2228   |fi
2229 }%
```

\HyPsd@DoConvert

```

2230 |gdef|HyPsd@DoConvert#1{%
2231 |ifx#1|@empty
2232 |else
2233 |ltx@ReturnAfterFi{%
2234 |ifx#1\%%
2235 \%%
2236 |expandafter|HyPsd@DoEscape
2237 |else
2238 |HyPsd@Char{#1}%
2239 |expandafter|HyPsd@DoConvert
2240 |fi
2241 }%
2242 |fi
2243 }%

```

\HyPsd@DoEscape

```

2244 |gdef|HyPsd@DoEscape#1{%
2245 |ifx#19%
2246 |expandafter|HyPsd@GetTwoBytes
2247 |else
2248 |ltx@ReturnAfterFi{%
2249 |ifx#18%
2250 00%
2251 |expandafter|HyPsd@GetTwoBytes
2252 |else
2253 #1%
2254 |expandafter|HyPsd@GetOneByte
2255 |fi
2256 }%
2257 |fi
2258 }%

```

\HyPsd@GetTwoBytes

```

2259 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2260 #1\#2#3#4%
2261 |HyPsd@DoConvert
2262 }%

```

\HyPsd@GetOneByte

```

2263 |gdef|HyPsd@GetOneByte#1#2{%
2264 #1#2%
2265 |HyPsd@DoConvert
2266 }%
2267 |endgroup

```

\HyPsd@@GetNextTwoTokens T<sub>E</sub>X does only allow nine parameters, so we need another macro to get more arguments.

```

2268 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2269 \xdef#4{#4#1#2}%
2270 \HyPsd@@ConvertToUnicode#3\END#4%
2271 }

```

\HyPsd@Char

```

2272 \begingroup
2273 \catcode0=9 %
2274 \catcode'\^=7 %

```



```

2275 \catcode'\^^^=12 %
2276 \def\x{^^^^0000}%
2277 \expandafter\endgroup
2278 \ifx\x\@empty
2279 \def\HyPsd@Char#1{%
2280 \ifnum'#1<128 %
2281 \@backslashchar 000#1%
2282 \else
2283 \ifnum'#1<65536 %
2284 \expandafter\HyPsd@CharTwoByte\number'#1%
2285 \else
2286 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2287 \intcalcSub{'#1}{65536}!%
2288 \fi
2289 \fi
2290 }%
2291 \def\HyPsd@CharTwoByte#1{%
2292 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2293 \IntCalcDiv#1!256!!%
2294 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2295 \IntCalcMod#1!256!!%
2296 }%
2297 \def\HyPsd@CharOctByte#1{%
2298 \@backslashchar
2299 \IntCalcDiv#1!64!%
2300 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2301 \IntCalcMod#1!8!%
2302 }%
2303 \def\HyPsd@CharSurrogate#1{%
2304 \@backslashchar 33%
2305 \IntCalcDiv#1!262144!%
2306 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2307 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2308 \@backslashchar 33%
2309 \expandafter\expandafter\expandafter\IntCalcAdd
2310 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2311 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2312 \IntCalcMod#1!256!!%
2313 }%
2314 \else
2315 \def\HyPsd@Char#1{%
2316 \@backslashchar 000#1%
2317 }%
2318 \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

```

```

2319 \begingroup\expandafter\expandafter\expandafter\endgroup
2320 \expandafter\ifx\csname numexpr\endcsname\relax
2321 \let\HyPsd@UTFviii\relax
2322 \else
2323 \begingroup
2324 \lccode'\~='^f4\relax
2325 \lowercase{\endgroup
2326 \def\HyPsd@UTFviii{%
2327 \let\UTFviii@two@octets\HyPsd@UTFviii@two
2328 \let\UTFviii@three@octets\HyPsd@UTFviii@three
2329 \let\UTFviii@four@octets\HyPsd@UTFviii@four
2330 \ifx~\HyPsd@UTFviii@ccxliv@undef
2331 \let~\HyPsd@UTFviii@ccxliv@def
2332 \fi
2333 \let\unichar\HyPsd@unichar
2334 }%
2335 }%
2336 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2337 \edef\HyPsd@UTFviii@ccxliv@def{%
2338 \noexpand\UTFviii@four@octets\string ~^f4%
2339 }%

```

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

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

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

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

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

$$(5)$$

```

2340 \def\HyPsd@UTFviii@two#1#2{%
2341 \expandafter\HyPsd@UTFviii@@two
2342 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
2343 \number'#1\expandafter|
2344 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|
2345 \number'#2 \@nil
2346 }%
2347 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2348 \expandafter\8%
2349 \number\dimexpr #1-48\expandafter\relax
2350 \csname\number\dimexpr #2-4*#1\relax\expandafter\endcsname
2351 \number\dimexpr #3-8*%
2352 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2353 \number\dimexpr #4-8*#3\relax
2354 }%

```

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

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

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

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

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

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

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

(12)

```

2355 \def\HyPsd@UTFviii@three#1#2#3{%
2356   \expandafter\HyPsd@UTFviii@@three
2357   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2358   \number'#1\expandafter| %
2359   \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2360   \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2361   \number'#2\expandafter| %
2362   \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2363   \number'#3 \@nil
2364 }%
2365 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2366   \expandafter\%
2367   \number\numexpr #1-56\expandafter\relax
2368   \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2369   \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2370   \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2371   \number\numexpr #6-16\expandafter\relax
2372   \number\numexpr #7-8*#6\relax
2373 }%

```

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

```

```

2374 \def\HyPsd@UTFviii@four#1#2{%
2375   \expandafter\HyPsd@@UTFviii@four\number
2376   \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2377   \expandafter|\number
2378   \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2379 }%
2380 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2381   \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2382   \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2383   \ifodd#2 %
2384     \number\numexpr(#2-1)/2\relax
2385   \else
2386     \number\numexpr#2/2\relax
2387   \fi
2388   \number\numexpr\ifodd#2 4+\fi
2389   \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2390   \933%
2391   \expandafter\HyPsd@@@UTFviii@four\number
2392   \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2393 }%
2394 \def\HyPsd@@@UTFviii@four#1|#2{%
2395   \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2396   \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2397   \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2398   \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2399 }%

```

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

```

2400 \def\HyPsd@unichar#1{%
2401   \ifHy@unicode
2402     \ifnum#1>"10FFFF %
2403       \HyPsd@UnicodeReplacementCharacter % illegal
2404     \else
2405       \ifnum#1>"FFFF %

```

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

```

2406   \expandafter\HyPsd@unichar\expandafter{%
2407     \number\dimexpr 55296+%
2408     \dimexpr.0009765625\dimexpr\number#1sp-\p@
2409     \relax\relax\relax
2410   }%

```

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

```

2411   \expandafter\HyPsd@unichar\expandafter{%
2412     \number\dimexpr#1-9216%
2413     -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2414     \relax\relax\relax
2415   }%
2416   \else
2417     \ifnum#1>"7FFF %
2418       \9%
2419       \expandafter\HyPsd@unichar@first@byte\expandafter{%
2420         \number
2421         \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2422       }%
2423     \else
2424       \8%
2425       \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2426     \fi
2427     \expandafter\HyPsd@unichar@second@byte\expandafter{%
2428       \number
2429       \numexpr#1-256*\number
2430       \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2431     }%
2432   \fi
2433   \fi
2434   \else
2435     .% unsupported (Unicode -> PDF Doc Encoding)
2436   \fi
2437 }%
2438 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2439 \def\HyPsd@unichar@first@byte#1{%
2440   \number\dimexpr.015625\dimexpr#1sp\relax\relax
2441   \expandafter\HyPsd@unichar@octtwo\expandafter{%
2442     \number
2443     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2444     \relax\relax\relax
2445   }%
2446 }%
2447 \def\HyPsd@unichar@second@byte#1{%
2448   \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2449   \expandafter\HyPsd@unichar@octtwo\expandafter{%
2450     \number
2451     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%

```

```

2452 \relax\relax\relax
2453 }%
2454 }%
2455 \def\HyPsd@unichar@octtwo#1{%
2456 \number\dimexpr.125\dimexpr#1sp\relax\relax
2457 \number\dimexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2458 \relax\relax\relax
2459 }%
2460 \fi

```

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

```

2461 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2462 \ifx\@gobble#1%
2463 \else
2464 [Please insert \textbackslash PrerenderUnicode%
2465 \textbraceleft#1\textbraceright\space
2466 into preamble]%
2467 \fi
2468 }%

```

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

\HyPsd@DieFace Die faces are provided by

| Package | Macro    |
|---------|----------|
| ifsym   | \Cube    |
| epsdice | \epsdice |
| hhcount | \fcdice  |

\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.

```

2469 \def\HyPsd@DieFace#1{%
2470 \ifHy@unicode
2471 \ifnum#1<1 %
2472 \HyPsd@UnicodeReplacementCharacter
2473 \else
2474 \ifnum#1>6 %
2475 \9046\205%
2476 \expandafter\expandafter\expandafter
2477 \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2478 \else
2479 \9046\20\intcalcDec{#1}%
2480 \fi
2481 \fi
2482 \else
2483 .% Die faces are not part of PDFDocEncoding
2484 \fi
2485 }

```

\HyPsd@DieFaceLarge

```

2486 \def\HyPsd@DieFaceLarge#1{%
2487 \ifnum#1>6 %
2488 \expandafter\ltx@firstoftwo
2489 \else
2490 \expandafter\ltx@secondoftwo

```

```

2491 \fi
2492 {%
2493   \9046\205%
2494   \expandafter\expandafter\expandafter
2495   \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2496 }{%
2497   \9046\20\IntCalcDec#1!%
2498 }%
2499 }

```

### 6.6.11 Support for moon phases of package china2e

```

2500 \def\HyPsd@MoonPha#1{%
2501   \ifcase\intcalcNum{#1} %
2502     \HyPsd@UnicodeReplacementCharacter
2503   \or % 1
2504   % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2505   \9330\074\9337\032%
2506   \or % 2
2507   \HyPsd@UnicodeReplacementCharacter
2508   \or % 3
2509   % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2510   \9330\074\9337\035%
2511   \or % 4
2512   % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2513   \9330\074\9337\034%
2514   \else
2515     \HyPsd@UnicodeReplacementCharacter
2516   \fi
2517 }
2518 %* \HyPsd@MoonPha -> \MoonPha

```

### 6.6.12 Support for package pifont

\HyPsd@ding

```

2519 \def\HyPsd@ding#1{%
2520   \ifHy@unicode
2521     \ifnum#1<32 %
2522       \HyPsd@UnicodeReplacementCharacter
2523     \else
2524       \ifnum#1>254 %
2525         \HyPsd@UnicodeReplacementCharacter
2526       \else
2527         \ifnum#1<127 %
2528           \expandafter\expandafter\expandafter
2529           \HyPsd@@ding\intcalcNum{#1}!%
2530         \else
2531           \ifnum#1>160 %
2532             \expandafter\expandafter\expandafter
2533             \HyPsd@@ding\intcalcNum{#1}!%
2534           \else
2535             \HyPsd@UnicodeReplacementCharacter
2536           \fi
2537         \fi
2538       \fi
2539     \fi
2540   \else
2541     .% Dingbats are not part of PDFDocEncoding

```

```

2542 \fi
2543 }

\HyPsd@@ding
2544 \def\HyPsd@@ding#1!{%
2545 \ltx@ifundefined{HyPsd@ding@#1}{%
2546 \ifnum#1<127 %
2547 \9047%
2548 \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2549 \else
2550 \ifnum#1<168 %
2551 \9047\14\IntCalcSub#1!160!%
2552 \else
2553 \ifnum#1>181 %
2554 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2555 \else
2556 % 172..181 -> U+2460..U+2469
2557 \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2558 \fi
2559 \fi
2560 \fi
2561 }{%
2562 \csname HyPsd@ding@#1\endcsname
2563 }%
2564 }

2565 \@namedef{HyPsd@ding@32}{\space}
2566 % U+260E BLACK TELEPHONE
2567 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2568 % U+261B BLACK RIGHT POINTING INDEX
2569 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2570 % U+261E WHITE RIGHT POINTING INDEX
2571 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2572 % U+2605 BLACK STAR
2573 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2574 % U+25CF BLACK CIRCLE
2575 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2576 % U+25A0 BLACK SQUARE
2577 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2578 % U+25B2 BLACK UP-POINTING TRIANGLE
2579 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2580 % U+25BC BLACK DOWN-POINTING TRIANGLE
2581 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2582 % U+25C6 BLACK DIAMOND
2583 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2584 % U+25D7 RIGHT HALF BLACK CIRCLE
2585 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2586 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2587 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2588 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2589 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2590 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2591 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2592 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2593 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

## 7 Support of other packages

### 7.1 Class memoir

```
2594 \@ifclassloaded{memoir}{}%
2595 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}}%
2596 }
```

### 7.2 Package subfigure

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

```
2597 \@ifpackageloaded{subfigure}{%
2598 \ltx@ifundefined{sub@label}{%
2599 \Hy@hypertexnamesfalse
2600 }{%
2601 \renewcommand*{\sub@label}[1]{%
2602 \@bsphack
2603 \subfig@oldlabel{#1}%
2604 \if@filesw
2605 \begingroup
2606 \edef\@currentlabstr{%
2607 \expandafter\strip@prefix\meaning\@currentlabelname
2608 }%
2609 \protected@write\@auxout{}{%
2610 \string\newlabel{sub@#1}{%
2611 {\@nameuse{\@thesub\@capttype}}%
2612 {\thepage}%
2613 }%
2614 \expandafter\strip@period\@currentlabstr
2615 \relax.\relax\@@@%
2616 }%
2617 {\@currentHref}%
2618 }%
2619 }%
2620 }%
2621 \endgroup
2622 \fi
2623 \@esphack
2624 }%
2625 \@ifpackagelater{subfigure}{2002/03/26}{%
2626 \providecommand*{\toclevel@subfigure}{1}%
2627 \providecommand*{\toclevel@subtable}{1}%
2628 }%
2629 }%
2630 }
```

### 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:

```
2631 \ltx@ifundefined{XR@addURL}{%
2632 }
```

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.

```
2633 \def\xr@addURL#1{\xr@dURL#1{}{}{}\}%
2634 \def\xr@dURL#1#2#3#4#5{\%
2635 {#1}{#2}%
```



```

2636 \if!#4!%
2637 \else
2638   {#3}{#4}{\XR@URL}%
2639 \fi
2640 }%
2641 }

2642 \def\Hy@true{true}
2643 \def\Hy@false{false}

    Providing dummy definitions.

2644 \let\literalps@out\@gobble
2645 \newcommand\pdfbookmark[3][]{ }
2646 \def\Acrobatmenu#1#2{\leavevmode#2}
2647 \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

```

2648 \let\HyperRaiseLinkHook\@empty
2649 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2650 \newcount\Hy@SavedSpaceFactor
2651 \def\Hy@SaveSpaceFactor{%
2652   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@ \fi
2653 }
2654 \def\Hy@RestoreSpaceFactor{%
2655   \relax
2656   \ifhmode
2657     \ifnum\Hy@SavedSpaceFactor>\z@
2658       \spacefactor=\Hy@SavedSpaceFactor
2659     \fi
2660   \fi
2661 }
2662 \def\Hy@SaveSavedSpaceFactor{%
2663   \edef\Hy@RestoreSavedSpaceFactor{%
2664     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2665   }%
2666 }
2667 \def\Hy@raisedlink#1{%
2668   \ifvmode
2669     #1%
2670   \else
2671     \Hy@SaveSpaceFactor
2672     \penalty\@M

```

```

2673 \smash{%
2674 \begingroup
2675 \let\HyperRaiseLinkLength\@tempdima
2676 \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2677 \HyperRaiseLinkHook
2678 \expandafter\endgroup
2679 \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2680 \Hy@RestoreSpaceFactor
2681 #1%
2682 \Hy@SaveSpaceFactor
2683 }%
2684 }%
2685 \Hy@RestoreSpaceFactor
2686 \fi
2687 }

```

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

```

2688 \def\Hy@SaveLastskip{%
2689 \let\Hy@RestoreLastskip\relax
2690 \ifvmode
2691 \ifdim\lastskip=\z@
2692 \let\Hy@RestoreLastskip\nobreak
2693 \else
2694 \begingroup
2695 \skip@=-\lastskip
2696 \edef\x{%
2697 \endgroup
2698 \def\noexpand\Hy@RestoreLastskip{%
2699 \noexpand\ifvmode
2700 \noexpand\nobreak
2701 \vskip\the\skip@
2702 \vskip\the\lastskip\relax
2703 \noexpand\fi
2704 }%
2705 }%
2706 \x
2707 \fi
2708 \else
2709 \ifhmode
2710 \ifdim\lastskip=\z@
2711 \let\Hy@RestoreLastskip\nobreak
2712 \else
2713 \begingroup
2714 \skip@=-\lastskip
2715 \edef\x{%
2716 \endgroup
2717 \def\noexpand\Hy@RestoreLastskip{%
2718 \noexpand\ifhmode
2719 \noexpand\nobreak
2720 \hskip\the\skip@
2721 \hskip\the\lastskip\relax
2722 \noexpand\fi
2723 }%
2724 }%
2725 \x
2726 \fi
2727 \fi

```

```

2728 \fi
2729 }%

```

## 9 Options

```

2730 \SetupKeyvalOptions{%
2731   family=Hyp,%
2732   prefix=HyOpt%
2733 }

```

### 9.1 Help macros

\IfHyperBooleanExists

```

2734 \def\IfHyperBooleanExists#1{%
2735   \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2736     \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2737   }%
2738 }

2739 \@namedef{KV@Hyp@stoppeearly@default}{ }

```

\IfHyperBoolean

```

2740 \def\IfHyperBoolean#1{%
2741   \IfHyperBooleanExists{#1}{%
2742     \csname ifHy@#1\endcsname
2743     \expandafter\ltx@firstoftwo
2744   \else
2745     \expandafter\ltx@secondoftwo
2746   \fi
2747 } \ltx@secondoftwo
2748 }

```

\Hy@boolkey

```

2749 \def\Hy@boolkey#1#2{%
2750   \edef\Hy@tempa{#2}%
2751   \lowercase\expandafter{%
2752     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2753   }%
2754   \ifx\Hy@tempa\@empty
2755     \let\Hy@tempa\Hy@true
2756   \fi
2757   \ifx\Hy@tempa\Hy@true
2758   \else
2759     \ifx\Hy@tempa\Hy@false
2760     \else
2761       \let\Hy@tempa\relax
2762     \fi
2763   \fi
2764   \ifx\Hy@tempa\relax
2765     \Hy@WarnOptionValue{#2}{#1}{‘true’ or ‘false’}%
2766   \else
2767     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2768     \csname Hy@#1\Hy@tempa\endcsname
2769   \fi
2770 }

```

\Hy@WarnOptionValue

```

2771 \def\Hy@WarnOptionValue#1#2#3{%
2772   \Hy@Warning{%
2773     Unexpected value ‘#1’\MessageBreak
2774     of option ‘#2’ instead of\MessageBreak
2775     #3%
2776   }%
2777 }

```

\Hy@DisableOption

```

2778 \def\Hy@DisableOption#1{%
2779   \ltx@ifundefined{KV@Hyp@#1@default}{%
2780     \define@key{Hyp}{#1}%
2781   }{%
2782     \define@key{Hyp}{#1}[]%
2783   }%
2784   {\Hy@WarnOptionDisabled{#1}}%
2785 }

```

\Hy@WarnOptionDisabled

```

2786 \def\Hy@WarnOptionDisabled#1{%
2787   \Hy@Warning{%
2788     Option ‘#1’ has already been used,\MessageBreak
2789     setting the option has no effect%
2790   }%
2791 }

```

\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.

```

2792 \def\Hy@CheckOptionValue#1#2#3{%
2793   \begingroup
2794   \edef\x{#1}%
2795   \@onelevel@sanitize\x
2796   \let\y=y%
2797   \def\do##1##2{%
2798     \def\z{##1}%
2799     \@onelevel@sanitize\z
2800     \ifx\x\z
2801       \let\y=n%
2802     \let\do\@gobbletwo
2803   \fi
2804   }%
2805   #3%
2806   \ifx\y y%
2807     \def\do##1##2{%
2808       * ‘##1’%
2809       \ifx\##2\else\space(##2)\fi
2810     \MessageBreak
2811   }%
2812   \Hy@Warning{%
2813     Values of option ‘#2’:\MessageBreak
2814     #3%
2815     * An empty value disables the option.\MessageBreak
2816     Unknown value ‘\x’%
2817   }%
2818   \fi

```

```

2819 \endgroup
2820 }

\Hy@DefNameKey #1: option name
#2: \do list with known values, first argument of \do is value, second argument
is a comment.
2821 \def\Hy@DefNameKey#1{%
2822 \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2823 }

\Hy@@DefNameKey #1: macro for value storage
#2: option name
#3: \do list with known values.
2824 \def\Hy@@DefNameKey#1#2#3{%
2825 \define@key{Hyp}{#2}{%
2826 \edef#1{##1}%
2827 \ifx#1\@empty
2828 \else
2829 \Hy@CheckOptionValue{##1}{#2}{#3}%
2830 \fi
2831 }%
2832 \let#1\@empty
2833 }

\Hy@UseNameKey
2834 \def\Hy@UseNameKey#1#2{%
2835 \ifx#2\@empty
2836 \else
2837 /#1/#2%
2838 \fi
2839 }

```

## 9.2 Defining the options

```

2840 \define@key{Hyp}{implicit}[true]{%
2841 \Hy@boolkey{implicit}{#1}%
2842 }
2843 \define@key{Hyp}{draft}[true]{%
2844 \Hy@boolkey{draft}{#1}%
2845 }
2846 \define@key{Hyp}{final}[true]{%
2847 \Hy@boolkey{final}{#1}%
2848 }
2849 \let\KV@Hyp@nolinks\KV@Hyp@draft
2850 \def\Hy@ObsoletePaperOption#1{%
2851 \Hy@WarningNoLine{%
2852 Option ‘#1’ is no longer used%
2853 }%
2854 \define@key{Hyp}{#1}[true]{}%
2855 }
2856 \def\Hy@temp#1{%
2857 \define@key{Hyp}{#1}[true]{%
2858 \Hy@ObsoletePaperOption{#1}%
2859 }%
2860 }
2861 \Hy@temp{a4paper}

```

```

2862 \Hy@temp{a5paper}
2863 \Hy@temp{b5paper}
2864 \Hy@temp{letterpaper}
2865 \Hy@temp{legalpaper}
2866 \Hy@temp{executivepaper}

2867 \define@key{Hyp}{setpagesize}[true]{%
2868   \Hy@boolkey{setpagesize}{#1}%
2869 }
2870 \define@key{Hyp}{debug}[true]{%
2871   \Hy@boolkey{debug}{#1}%
2872 }
2873 \define@key{Hyp}{linktocpage}[true]{%
2874   \Hy@boolkey{linktocpage}{#1}%
2875   \ifHy@linktocpage
2876     \let\Hy@linktoc\Hy@linktoc@page
2877   \else
2878     \let\Hy@linktoc\Hy@linktoc@section
2879   \fi
2880 }
2881 \chardef\Hy@linktoc@none=0 %
2882 \chardef\Hy@linktoc@section=1 %
2883 \chardef\Hy@linktoc@page=2 %
2884 \chardef\Hy@linktoc@all=3 %
2885 \ifHy@linktocpage
2886   \let\Hy@linktoc\Hy@linktoc@page
2887 \else
2888   \let\Hy@linktoc\Hy@linktoc@section
2889 \fi
2890 \define@key{Hyp}{linktoc}{%
2891   \@ifundefined{Hy@linktoc@#1}{%
2892     \Hy@Warning{%
2893       Unexpected value '#1' of\MessageBreak
2894       option 'linktoc' instead of 'none',\MessageBreak
2895       'section', 'page' or 'all'%
2896     }%
2897   }{%
2898     \expandafter\let\expandafter\Hy@linktoc
2899     \csname Hy@linktoc@#1\endcsname
2900   }%
2901 }
2902 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2903 \let\XR@ext\relax
2904 \define@key{Hyp}{verbose}[true]{%
2905   \Hy@boolkey{verbose}{#1}%
2906 }
2907 \define@key{Hyp}{typexml}[true]{%
2908   \Hy@boolkey{typexml}{#1}%
2909 }

```

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.

```

2910 \define@key{Hyp}{raiselinks}[true]{%
2911   \Hy@boolkey{raiselinks}{#1}%
2912 }

```

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

```

2913 \def\Hy@setbreaklinks#1{%
2914   \csname breaklinks#1\endcsname
2915 }

2916 \def\Hy@breaklinks@unsupported{%
2917   \ifx\Hy@setbreaklinks\@gobble
2918     \ifHy@breaklinks
2919       \Hy@WarningNoLine{%
2920         You have enabled option 'breaklinks'.\MessageBreak
2921         But driver '\Hy@driver.def' does not support this.\MessageBreak
2922         Expect trouble with the link areas of broken links%
2923       }%
2924     \fi
2925   \fi
2926 }

2927 \define@key{Hyp}{breaklinks}[true]{%
2928   \Hy@boolkey{breaklinks}{#1}%
2929   \let\Hy@setbreaklinks\@gobble
2930 }

2931 \define@key{Hyp}{localanchorname}[true]{%
2932   \Hy@boolkey{localanchorname}{#1}%
2933 }

Determines whether an automatic anchor is put on each page
2934 \define@key{Hyp}{pageanchor}[true]{%
2935   \Hy@boolkey{pageanchor}{#1}%
2936 }

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.
2937 \define@key{Hyp}{plainpages}[true]{%
2938   \Hy@boolkey{plainpages}{#1}%
2939 }

Are the names for anchors made as per the HyperTeX system, or do they simply
use what LATEX provides?
2940 \define@key{Hyp}{naturalnames}[true]{%
2941   \Hy@boolkey{naturalnames}{#1}%
2942 }

Completely ignore the names as per the HyperTeX system, and use unique coun-
ters.
2943 \define@key{Hyp}{hypertexnames}[true]{%
2944   \Hy@boolkey{hypertexnames}{#1}%
2945 }

Currently, dvips doesn't allow anchors nested within targets, so this option tries
to stop that happening. Other processors may be able to cope.
2946 \define@key{Hyp}{nesting}[true]{%
2947   \Hy@boolkey{nesting}{#1}%
2948 }

2949 \define@key{Hyp}{destlabel}[true]{%
2950   \Hy@boolkey{destlabel}{#1}%
2951 }

2952 \define@key{Hyp}{unicode}[true]{%
2953   \Hy@boolkey{unicode}{#1}%
2954   \ifHy@unicode
2955     \def\HyPsd@pdfencoding{unicode}%
2956     \HyPsd@LoadUnicode

```

```

2957 \else
2958   \def\HyPsd@pdfencoding{pdfdoc}%
2959 \fi
2960 }
2961 \Hy@AtBeginDocument{%
2962   \ifx\HyPsd@LoadUnicode\relax
2963   \else
2964     \def\HyPsd@LoadUnicode{%
2965       \Hy@Error{%
2966         Unicode support for bookmarks is not available.\MessageBreak
2967         Activate unicode support by using one of the options\MessageBreak
2968         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2969         in the preamble%
2970       } \@ehc
2971       \global\let\HyPsd@LoadUnicode\relax
2972       \global\Hy@unicodedefalse
2973       \global\let\Hy@unicodetrue\Hy@unicodedefalse
2974     }%
2975   \fi
2976 }

2977 \define@key{Hyp}{pdfencoding}{%
2978   \edef\HyPsd@temp{#1}%
2979   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2980     \let\HyPsd@pdfencoding\HyPsd@temp
2981     \Hy@unicodedefalse
2982   \else
2983     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2984       \z@
2985     \else
2986       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2987         \z@
2988       \else
2989         \@ne
2990       \fi
2991     \fi
2992     \let\HyPsd@pdfencoding\HyPsd@temp
2993     \hypersetup{unicode}%
2994     \ifHy@unicode
2995       \def\HyPsd@pdfencoding{#1}%
2996       \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2997         \HyPsd@LoadStringEncoding
2998       \fi
2999     \else
3000       \Hy@Warning{Cannot switch to unicode bookmarks}%
3001       \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
3002     \fi
3003   \else
3004     \@onelevel@sanitize\HyPsd@temp
3005     \Hy@Warning{%
3006       Values of option 'pdfencoding':\MessageBreak
3007       'pdfdoc', 'unicode', 'auto'.\MessageBreak
3008       Ignoring unknown value '\HyPsd@temp'%
3009     }%
3010   \fi
3011 \fi
3012 }
3013 \def\HyPsd@pdfencoding@auto{auto}

```



```

3014 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
3015 \def\HyPsd@pdfencoding@unicode{unicode}
3016 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
3017 \def\HyPsd@LoadStringEnc{%
3018   \RequirePackage{stringenc}[2009/12/15]%
3019   \let\HyPsd@LoadStringEnc\relax
3020 }
3021 \Hy@AtBeginDocument{%
3022   \ifpackageloaded{stringenc}{%
3023     \let\HyPsd@LoadStringEnc\relax
3024   }{%
3025     \def\HyPsd@LoadStringEnc{%
3026       \Hy@WarningNoLine{%
3027         Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
3028         in the preamble or load the package there%
3029       }%
3030     }%
3031   }%
3032 }

3033 \define@key{Hyp}{psdextra}[true]{%
3034   \Hy@boolkey{psdextra}{#1}%
3035   \HyPsd@LoadExtra
3036 }

3037 \def\hypersetup{\kvsetkeys{Hyp}}

3038 \newif\ifHy@setpdfversion
3039 \define@key{Hyp}{pdfversion}{%
3040   \ifundefined{Hy@pdfversion@#1}{%
3041     \PackageWarning{hyperref}{%
3042       Unsupported PDF version '#1'.\MessageBreak
3043       Valid values: 1.2 until 1.9%
3044     }%
3045   }{%
3046     \Hy@setpdfversiontrue
3047     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
3048   }%
3049 }
3050 \@namedef{Hy@pdfversion@1.2}{2}%
3051 \@namedef{Hy@pdfversion@1.3}{3}%
3052 \@namedef{Hy@pdfversion@1.4}{4}%
3053 \@namedef{Hy@pdfversion@1.5}{5}%
3054 \@namedef{Hy@pdfversion@1.6}{6}%
3055 \@namedef{Hy@pdfversion@1.7}{7}%
3056 \@namedef{Hy@pdfversion@1.8}{8}%
3057 \@namedef{Hy@pdfversion@1.9}{9}%
3058 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

3059 \newif\ifHy@DviMode
3060 \let\Hy@DviErrMsg\ltx@empty
3061 \ifpdf
3062   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
3063 \else
3064   \ifxetex
3065     \def\Hy@DviErrMsg{XeTeX is running}%
3066   \else

```

```

3067 \ifvtex
3068 \ifvtexdvi
3069 \Hy@DviModetrue
3070 \else
3071 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
3072 \fi
3073 \else
3074 \Hy@DviModetrue
3075 \fi
3076 \fi
3077 \fi
3078 \def\HyOpt@CheckDvi#1{%
3079 \ifHy@DviMode
3080 \expandafter\ltx@firstofone
3081 \else
3082 \Hy@Error{%
3083 Wrong DVI mode driver option ‘#1’,\MessageBreak
3084 because \Hy@DviErrMsg
3085 }\@ehc
3086 \expandafter\ltx@gobble
3087 \fi
3088 }

3089 \DeclareVoidOption{tex4ht}{%
3090 \Hy@texhttrue
3091 \kvsetkeys{Hyp}{colorlinks=true}%
3092 \def\BeforeTeXIVht{\RequirePackage{color}}}%
3093 \def\Hy@driver{htex4ht}%
3094 \def\MaybeStopEarly{%
3095 \Hy@Message{Stopped early}%
3096 \Hy@AtBeginDocument{%
3097 \PDF@FinishDoc
3098 \gdef\PDF@FinishDoc{}}%
3099 }%
3100 \endinput
3101 }%
3102 }

3103 \DeclareVoidOption{pdftex}{%
3104 \ifpdf
3105 \def\Hy@driver{hpdftex}%
3106 \else
3107 \Hy@Error{%
3108 Wrong driver option ‘pdftex’,\MessageBreak
3109 because pdfTeX in PDF mode is not detected%
3110 }\@ehc
3111 \fi
3112 }

3113 \DeclareVoidOption{nativepdf}{%
3114 \HyOpt@CheckDvi{nativepdf}{%
3115 \def\Hy@driver{hdvips}%
3116 }%
3117 }

3118 \DeclareVoidOption{dvipdfm}{%
3119 \HyOpt@CheckDvi{dvipdfm}{%
3120 \def\Hy@driver{hdvipdfm}%
3121 }%
3122 }

3123 \DeclareVoidOption{dvipdfmx}{%

```

```

3124 \HyOpt@CheckDvi{dvipdfmx}{%
3125   \def\Hy@driver{hdvipdfm}%
3126 }%
3127 }
3128 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
3129   \expandafter\ifx\csname if#1\expandafter\endcsname
3130     \csname iftrue\endcsname
3131   \chardef\SpecialDvipdfmxOutlineOpen\@ne
3132 }else
3133   \chardef\SpecialDvipdfmxOutlineOpen\z@
3134 \fi
3135 }
3136 \DeclareVoidOption{xetex}{%
3137   \ifxetex
3138     \def\Hy@driver{hxetex}%
3139   }else
3140     \Hy@Error{%
3141       Wrong driver option 'xetex',\MessageBreak
3142       because XeTeX is not detected%
3143     }\@ehc
3144   \fi
3145 }
3146 \DeclareVoidOption{pdfmark}{%
3147   \HyOpt@CheckDvi{pdfmark}{%
3148     \def\Hy@driver{hdvips}%
3149   }%
3150 }
3151 \DeclareVoidOption{dvips}{%
3152   \HyOpt@CheckDvi{dvips}{%
3153     \def\Hy@driver{hdvips}%
3154   }%
3155 }
3156 \DeclareVoidOption{hypertex}{%
3157   \HyOpt@CheckDvi{hypertex}{%
3158     \def\Hy@driver{hypertex}%
3159   }%
3160 }
3161 \let\Hy@MaybeStopNow\relax
3162 \DeclareVoidOption{vtex}{%
3163   \ifvtex
3164     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3165     \def\Hy@driver{hvtex}%
3166   }else
3167     \ifnum\OpMode=10\relax
3168     \def\Hy@driver{hvtexhtm}%
3169     \def\MaybeStopEarly{%
3170       \Hy@Message{Stopped early}%
3171       \Hy@AtBeginDocument{%
3172         \PDF@FinishDoc
3173         \gdef\PDF@FinishDoc{}%
3174       }%
3175     \endinput
3176   }%
3177 }else
3178   \Hy@Error{%
3179     Wrong driver option 'vtex',\MessageBreak
3180     because of wrong OpMode (\the\OpMode)%

```

```

3181     }\@ehc
3182   \fi
3183 \fi
3184 \else
3185   \Hy@Error{%
3186     Wrong driver option 'vtex',\MessageBreak
3187     because VTeX is not running%
3188   }\@ehc
3189 \fi
3190 }
3191 \DeclareVoidOption{vtexpdfmark}{%
3192   \ifvtex
3193     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3194     \def\Hy@driver{hvtexmrk}%
3195   \else
3196     \Hy@Error{%
3197       Wrong driver option 'vtexpdfmark',\MessageBreak
3198       because of wrong OpMode (\the\OpMode)%
3199     }\@ehc
3200   \fi
3201 \else
3202   \Hy@Error{%
3203     Wrong driver option 'vtexpdfmark',\MessageBreak
3204     because VTeX is not running%
3205   }\@ehc
3206 \fi
3207 }
3208 \DeclareVoidOption{dviwindo}{%
3209   \HyOpt@CheckDvi{dviwindo}{%
3210     \def\Hy@driver{hdviwind}%
3211     \kvsetkeys{Hyp}{colorlinks}%
3212     \PassOptionsToPackage{dviwindo}{color}%
3213   }%
3214 }
3215 \DeclareVoidOption{dvipsone}{%
3216   \HyOpt@CheckDvi{dvipsone}{%
3217     \def\Hy@driver{hdvipson}%
3218   }%
3219 }
3220 \DeclareVoidOption{textures}{%
3221   \HyOpt@CheckDvi{textures}{%
3222     \def\Hy@driver{htexture}%
3223   }%
3224 }
3225 \DeclareVoidOption{latex2html}{%
3226   \HyOpt@CheckDvi{latex2html}{%
3227     \Hy@AtBeginDocument{\@@@latextohtmlX}%
3228   }%
3229 }

```

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

```

3230 \DeclareVoidOption{ps2pdf}{%
3231   \HyOpt@CheckDvi{ps2pdf}{%
3232     \def\Hy@driver{hdvips}%
3233   }%
3234 }
3235 \let\HyOpt@DriverFallback\ltx@empty
3236 \define@key{Hyp}{driverfallback}{%

```

```

3237 \ifHy@DviMode
3238   \def\HyOpt@DriverFallback{#1}%
3239   \Hy@Match\HyOpt@DriverFallback{%
3240     ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3241     latex2html|tex4ht)$%
3242   }{}{%
3243     \let\HyOpt@DriverFallback\ltx@empty
3244   }%
3245 \fi
3246 }

3247 \let\HyOpt@CustomDriver\ltx@empty
3248 \define@key{Hyp}{customdriver}{%
3249   \IfFileExists{#1.def}{%
3250     \def\HyOpt@CustomDriver{#1}%
3251   }{%
3252     \Hy@Warning{%
3253       Missing driver file '#1.def',\MessageBreak
3254       ignoring custom driver%
3255     }%
3256   }%
3257 }

```

## 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.

```

3258 \define@key{Hyp}{hyperfigures}[true]{%
3259   \Hy@boolkey{hyperfigures}{#1}%
3260 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3261 \define@key{Hyp}{hyperfootnotes}[true]{%
3262   \Hy@boolkey{hyperfootnotes}{#1}%
3263 }

```

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

```

3264 \def\back@none{none}
3265 \def\back@section{section}
3266 \def\back@page{page}
3267 \def\back@slide{slide}
3268 \define@key{Hyp}{backref}[section]{%
3269   \lowercase{\def\Hy@tempa{#1}}%
3270   \ifx\Hy@tempa\@empty
3271     \let\Hy@tempa\back@section
3272   \fi
3273   \ifx\Hy@tempa\Hy@false
3274     \let\Hy@tempa\back@none
3275   \fi
3276   \ifx\Hy@tempa\back@slide
3277     \let\Hy@tempa\back@section
3278   \fi
3279   \ifx\Hy@tempa\back@page
3280     \PassOptionsToPackage{hyperpageref}{backref}%
3281     \Hy@backreftrue
3282   \else
3283     \ifx\Hy@tempa\back@section
3284       \PassOptionsToPackage{hyperref}{backref}%

```

```

3285 \Hy@backreftrue
3286 \else
3287 \ifx\Hy@tempa\back@none
3288 \Hy@backreffalse
3289 \else
3290 \Hy@WarnOptionValue{#1}{backref}{%
3291 'section', 'slide', 'page', 'none',\MessageBreak
3292 or 'false'}%
3293 \fi
3294 \fi
3295 \fi
3296 }
3297 \define@key{Hyp}{pagebackref}[true]{%
3298 \edef\Hy@tempa{#1}%
3299 \lowercase\expandafter{%
3300 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3301 }%
3302 \ifx\Hy@tempa\@empty
3303 \let\Hy@tempa\Hy@true
3304 \fi
3305 \ifx\Hy@tempa\Hy@true
3306 \PassOptionsToPackage{hyperpageref}{backref}%
3307 \Hy@backreftrue
3308 \else
3309 \ifx\Hy@tempa\Hy@false
3310 \Hy@backreffalse
3311 \else
3312 \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
3313 \fi
3314 \fi
3315 }

```

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

```

3316 \define@key{Hyp}{hyperindex}[true]{%
3317 \Hy@boolkey{hyperindex}{#1}%
3318 }

```

Configuration of encap char.

```

3319 \define@key{Hyp}{encap}[|]{%
3320 \def\HyInd@EncapChar{#1}%
3321 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

3322 \def\HyLang@afrikaans{%
3323 \def\equationautorefname{Vergelyking}%
3324 \def\footnoteautorefname{Voetnota}%
3325 \def\itemautorefname{Item}%
3326 \def\figureautorefname{Figuur}%
3327 \def\tableautorefname{Tabel}%
3328 \def\partautorefname{Deel}%
3329 \def\appendixautorefname{Bylae}%
3330 \def\chapterautorefname{Hoofstuk}%
3331 \def\sectionautorefname{Afdeling}%
3332 \def\subsectionautorefname{Subafdeling}%

```

```

3333 \def\subsubsectionautorefname{Subsubafdeling}%
3334 \def\paragraphautorefname{Paragraaf}%
3335 \def\subparagraphautorefname{Subparagraaf}%
3336 \def\FancyVerbLineautorefname{Lyn}%
3337 \def\theoremautorefname{Teorema}%
3338 \def\pageautorefname{Bladsy}%
3339 }
3340 \def\HyLang@english{%
3341 \def\equationautorefname{Equation}%
3342 \def\footnoteautorefname{footnote}%
3343 \def\itemautorefname{item}%
3344 \def\figureautorefname{Figure}%
3345 \def\tableautorefname{Table}%
3346 \def\partautorefname{Part}%
3347 \def\appendixautorefname{Appendix}%
3348 \def\chapterautorefname{chapter}%
3349 \def\sectionautorefname{section}%
3350 \def\subsectionautorefname{subsection}%
3351 \def\subsubsectionautorefname{subsubsection}%
3352 \def\paragraphautorefname{paragraph}%
3353 \def\subparagraphautorefname{subparagraph}%
3354 \def\FancyVerbLineautorefname{line}%
3355 \def\theoremautorefname{Theorem}%
3356 \def\pageautorefname{page}%
3357 }
3358 \def\HyLang@french{%
3359 \def\equationautorefname{'Equation}%
3360 \def\footnoteautorefname{note}%
3361 \def\itemautorefname{item}%
3362 \def\figureautorefname{Figure}%
3363 \def\tableautorefname{Tableau}%
3364 \def\partautorefname{Partie}%
3365 \def\appendixautorefname{Appendice}%
3366 \def\chapterautorefname{chapitre}%
3367 \def\sectionautorefname{section}%
3368 \def\subsectionautorefname{sous-section}%
3369 \def\subsubsectionautorefname{sous-sous-section}%
3370 \def\paragraphautorefname{paragraphe}%
3371 \def\subparagraphautorefname{sous-paragraphe}%
3372 \def\FancyVerbLineautorefname{ligne}%
3373 \def\theoremautorefname{Th\'eor\`eme}%
3374 \def\pageautorefname{page}%
3375 }
3376 \def\HyLang@german{%
3377 \def\equationautorefname{Gleichung}%
3378 \def\footnoteautorefname{Fu\ss note}%
3379 \def\itemautorefname{Punkt}%
3380 \def\figureautorefname{Abbildung}%
3381 \def\tableautorefname{Tabelle}%
3382 \def\partautorefname{Teil}%
3383 \def\appendixautorefname{Anhang}%
3384 \def\chapterautorefname{Kapitel}%
3385 \def\sectionautorefname{Abschnitt}%
3386 \def\subsectionautorefname{Unterabschnitt}%
3387 \def\subsubsectionautorefname{Unterunterabschnitt}%
3388 \def\paragraphautorefname{Absatz}%
3389 \def\subparagraphautorefname{Unterabsatz}%

```

```

3390 \def\FancyVerbLineautorefname{Zeile}%
3391 \def\theoremautorefname{Theorem}%
3392 \def\pageautorefname{Seite}%
3393 }
3394 \def\HyLang@italian{%
3395 \def\equationautorefname{Equazione}%
3396 \def\footnoteautorefname{nota}%
3397 \def\itemautorefname{punto}%
3398 \def\figureautorefname{Figura}%
3399 \def\tableautorefname{Tabella}%
3400 \def\partautorefname{Parte}%
3401 \def\appendixautorefname{Appendice}%
3402 \def\chapterautorefname{Capitolo}%
3403 \def\sectionautorefname{sezione}%
3404 \def\subsectionautorefname{sottosezione}%
3405 \def\subsubsectionautorefname{sottosottosezione}%
3406 \def\paragraphautorefname{paragrafo}%
3407 \def\subparagraphautorefname{sottoparagrafo}%
3408 \def\FancyVerbLineautorefname{linea}%
3409 \def\theoremautorefname{Teorema}%
3410 \def\pageautorefname{Pag.\@}%
3411 }
3412 \def\HyLang@magyar{%
3413 \def\equationautorefname{Egyenlet}%
3414 \def\footnoteautorefname{l\'abjegyzet}%
3415 \def\itemautorefname{Elem}%
3416 \def\figureautorefname{'Abra}%
3417 \def\tableautorefname{T\'abl\'azat}%
3418 \def\partautorefname{R\'esz}%
3419 \def\appendixautorefname{F\'uggel\'ek}%
3420 \def\chapterautorefname{fejezet}%
3421 \def\sectionautorefname{szakasz}%
3422 \def\subsectionautorefname{alszakasz}%
3423 \def\subsubsectionautorefname{alalszakasz}%
3424 \def\paragraphautorefname{bekezd\'es}%
3425 \def\subparagraphautorefname{albekezd\'es}%
3426 \def\FancyVerbLineautorefname{sor}%
3427 \def\theoremautorefname{T\'étel}%
3428 \def\pageautorefname{oldal}%
3429 }
3430 \def\HyLang@portuges{%
3431 \def\equationautorefname{Equa\c c\~ao}%
3432 \def\footnoteautorefname{Nota de rodap\'e}%
3433 \def\itemautorefname{Item}%
3434 \def\figureautorefname{Figura}%
3435 \def\tableautorefname{Tabela}%
3436 \def\partautorefname{Parte}%
3437 \def\appendixautorefname{Ap\^endice}%
3438 \def\chapterautorefname{Cap\'itulo}%
3439 \def\sectionautorefname{Se\c c\~ao}%
3440 \def\subsectionautorefname{Subse\c c\~ao}%
3441 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3442 \def\paragraphautorefname{par\'agrafo}%
3443 \def\subparagraphautorefname{subpar\'agrafo}%
3444 \def\FancyVerbLineautorefname{linha}%
3445 \def\theoremautorefname{Teorema}%
3446 \def\pageautorefname{P\'agina}%

```



3447 }

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`.

3448 `\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`?

3449 `\def\equationautorefname{\cyr\cyrv\cyrrery\cyrr.}%`

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

3450 `% \def\equationautorefname{%`

3451 `% \cyr\cyrv\cyrrery\cyrr\cyra\cyrrzh\cyre\cyrn\cyri\cyre`

3452 `% }%`

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

3453 `\def\footnoteautorefname{%`

3454 `\cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%`

3455 `}%`

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}`”

3456 `% \def\footnoteautorefname{%`

3457 `% \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %`

3458 `% \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre`

3459 `% }%`

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

3460 `% \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%`

3461 `% \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.

3462 `\def\itemautorefname{\cyr\cyrp.}%`

3463 `% \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.

3464 `\def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%`

3465 `\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.

3466 `\def\partautorefname{\cyr\cyrch.}%`

3467 `\def\chapterautorefname{\cyr\cyrg\cyrl.}%`

3468 `\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.

```
3469 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyr1.}%
3470 % \def\appendixautorefname{%
3471 % \cyr\cyrp\cyrr\cyri\cyr1\cyro\cyrzh\cyre\cyrn\cyri\cyre
3472 % }%
```

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.

```
3473 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3474 \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.

```
3475 \def\paragraphautorefname{\cyr\cyrp.}%
3476 \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.

```
3477 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3478 % \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.

```
3479 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3480 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3481 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3482 % \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 ...

```
3483 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3484 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3485 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3486 \def\pageautorefname{\cyr\cyrs.}%
3487 }
```

```
3488 \def\HyLang@spanish{%
3489 \def\equationautorefname{Ecuaci'on}%
3490 \def\footnoteautorefname{Nota a pie de p'agina}%
3491 \def\itemautorefname{Elemento}%
3492 \def\figureautorefname{Figura}%
```

```

3493 \def\tableautorefname{Tabla}%
3494 \def\partautorefname{Parte}%
3495 \def\appendixautorefname{Ap\`endice}%
3496 \def\chapterautorefname{Cap\`itulo}%
3497 \def\sectionautorefname{Secci\`on}%
3498 \def\subsectionautorefname{Subsecci\`on}%
3499 \def\subsubsectionautorefname{Subsubsecci\`on}%
3500 \def\paragraphautorefname{P\`arrafo}%
3501 \def\subparagraphautorefname{Subp\`arrafo}%
3502 \def\FancyVerbLineautorefname{L\`inea}%
3503 \def\theoremautorefname{Teorema}%
3504 \def\pageautorefname{P\`agina}%
3505 }
3506 \def\HyLang@vietnamese{%
3507 \def\equationautorefname{Ph\`uhorn{}}\ohorn{}ng tr\`inh}%
3508 \def\footnoteautorefname{Ch\`u th\`ich}%
3509 \def\itemautorefname{m\`d{u}c}%
3510 \def\figureautorefname{H\`inh}%
3511 \def\tableautorefname{B\`h{a}ng}%
3512 \def\partautorefname{Ph\`acircumflex{n}}%
3513 \def\appendixautorefname{Ph\`d{u} l\`d{u}c}%
3514 \def\chapterautorefname{ch\`uhorn{}}\ohorn{}ng}%
3515 \def\sectionautorefname{m\`d{u}c}%
3516 \def\subsectionautorefname{m\`d{u}c}%
3517 \def\subsubsectionautorefname{m\`d{u}c}%
3518 \def\paragraphautorefname{d{J}{o}{d}{a}{n}}%
3519 \def\subparagraphautorefname{d{J}{o}{d}{a}{n}}%
3520 \def\FancyVerbLineautorefname{d\`ong}%
3521 \def\theoremautorefname{D{J}{d}{i}{nh} l\`y}%
3522 \def\pageautorefname{Trang}%
3523 }

```

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

```

3524 \def\HyLang@addto#1#2{%
3525   #2%
3526   \@temptokena{#2}%
3527   \ifx#1\relax
3528     \let#1\@empty
3529   \fi
3530   \ifx#1\@undefined
3531     \edef#1{\the\@temptokena}%
3532   \else
3533     \toks@\expandafter{#1}%
3534     \edef#1{\the\toks@\the\@temptokena}%
3535   \fi
3536   \@temptokena{}\toks@\@temptokena
3537 }
3538 \def\HyLang@DeclareLang#1#2#3{%
3539 \ifpackagewith{babel}{#1}{%
3540   \expandafter\HyLang@addto
3541     \csname extras#1\expandafter\endcsname
3542     \csname HyLang@#2\endcsname
3543   \begingroup
3544     \edef\x{\endgroup
3545       #3%
3546     }%

```

```

3547 \x
3548 \@namedef{HyLang@#1@done}{}%
3549 }{}%
3550 \begingroup
3551 \edef\x##1##2{%
3552 \noexpand\ifx##2\relax
3553 \errmessage{No definitions for language #2' found!}%
3554 \noexpand\fi
3555 \endgroup
3556 \noexpand\define@key{Hyp}{#1}[]{}%
3557 \noexpand\@ifundefined{HyLang@#1@done}{%
3558 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3559 #3%
3560 \noexpand\@namedef{HyLang@#1@done}{}%
3561 }{}%
3562 }%
3563 }%
3564 \expandafter\x\csname extras#1\expandafter\endcsname
3565 \csname HyLang@#2\endcsname
3566 }
3567 \HyLang@DeclareLang{english}{english}{}
3568 \HyLang@DeclareLang{UKenglish}{english}{}
3569 \HyLang@DeclareLang{british}{english}{}
3570 \HyLang@DeclareLang{USenglish}{english}{}
3571 \HyLang@DeclareLang{american}{english}{}
3572 \HyLang@DeclareLang{german}{german}{}
3573 \HyLang@DeclareLang{austrian}{german}{}
3574 \HyLang@DeclareLang{ngerman}{german}{}
3575 \HyLang@DeclareLang{naustrian}{german}{}
3576 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3577 \HyLang@DeclareLang{brazil}{portuges}{}
3578 \HyLang@DeclareLang{brazilian}{portuges}{}
3579 \HyLang@DeclareLang{portuguese}{portuges}{}
3580 \HyLang@DeclareLang{spanish}{spanish}{}
3581 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3582 \HyLang@DeclareLang{french}{french}{}
3583 \HyLang@DeclareLang{frenchb}{french}{}
3584 \HyLang@DeclareLang{francais}{french}{}
3585 \HyLang@DeclareLang{acadian}{french}{}
3586 \HyLang@DeclareLang{canadien}{french}{}
3587 \HyLang@DeclareLang{italian}{italian}{}
3588 \HyLang@DeclareLang{magyar}{magyar}{}
3589 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3590 \DeclareVoidOption{vietnamese}{%
3591 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3592 \Hy@AtEndOfPackage{%
3593 \@ifundefined{T@PU}{}{}%
3594 \input{puvnenc.def}%
3595 }%
3596 }%
3597 }
3598 \DeclareVoidOption{vietnam}{%
3599 \HyLang@addto\extrasvietnam\HyLang@vietnamese
3600 \Hy@AtEndOfPackage{%
3601 \@ifundefined{T@PU}{}{}%
3602 \input{puvnenc.def}%

```

```

3603 }%
3604 }%
3605 }

```

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

```

3606 \DeclareVoidOption{arabic}{%
3607   \Hy@AtEndOfPackage{%
3608     \@ifundefined{T@PU}{}{%
3609       \input{puarenc.def}%
3610     }%
3611   }%
3612 }

```

## 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.

```

3613 \define@key{Hyp}{colorlinks}[true]{%
3614   \Hy@boolkey{colorlinks}{#1}%
3615 }
3616 \DeclareVoidOption{hidelinks}{%
3617   \Hy@colorlinksfalse
3618   \Hy@ocgcolorlinksfalse
3619   \Hy@frenchlinksfalse
3620   \def\Hy@colorlink##1{\begingroup}%
3621   \def\Hy@endcolorlink{\endgroup}%
3622   \def\@pdfborder{0 0 0}%
3623   \let\@pdfborderstyle\ltx@empty
3624 }
3625 \define@key{Hyp}{ocgcolorlinks}[true]{%
3626   \Hy@boolkey{ocgcolorlinks}{#1}%
3627 }
3628 \Hy@AtBeginDocument{%
3629   \begingroup
3630   \@ifundefined{OBJ@OCG@view}{%
3631     \ifHy@ocgcolorlinks
3632       \Hy@Warning{%
3633         Driver does not support ‘ocgcolorlinks’,\MessageBreak
3634         using ‘colorlinks’ instead%
3635       }%
3636     \fi
3637   }{}%
3638   \endgroup
3639 }
3640 \define@key{Hyp}{frenchlinks}[true]{%
3641   \Hy@boolkey{frenchlinks}{#1}%
3642 }

```

## 14 Bookmarking

```

3643 \begingroup\expandafter\expandafter\expandafter\endgroup
3644 \expandafter\ifx\csname chapter\endcsname\relax
3645   \def\toclevel@part{0}%
3646 \else
3647   \def\toclevel@part{-1}%
3648 \fi
3649 \def\toclevel@chapter{0}

```

```

3650 \def\toclevel@section{1}
3651 \def\toclevel@subsection{2}
3652 \def\toclevel@subsubsection{3}
3653 \def\toclevel@paragraph{4}
3654 \def\toclevel@subparagraph{5}
3655 \def\toclevel@figure{0}
3656 \def\toclevel@table{0}
3657 \ifpackageloaded{listings}{%
3658   \providecommand*\theHlstlisting{\thelstlisting}%
3659   \providecommand*\toclevel@lstlisting{0}%
3660 }{}
3661 \ifpackageloaded{listing}{%
3662   \providecommand*\theHlisting{\thelisting}%
3663   \providecommand*\toclevel@listing{0}%
3664 }{}

3665 \define@key{Hyp}{bookmarks}[true]{%
3666   \Hy@boolkey{bookmarks}{#1}%
3667 }

3668 \define@key{Hyp}{bookmarksopen}[true]{%
3669   \Hy@boolkey{bookmarksopen}{#1}%
3670 }

```

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.

```

3671 \let\Hy@bookmarksdepth\c@tocdepth
3672 \define@key{Hyp}{bookmarksdepth}[]{}%
3673 \begingroup
3674   \edef\x{#1}%
3675   \ifx\x\empty
3676     \global\let\Hy@bookmarksdepth\c@tocdepth
3677   \else
3678     \@ifundefined{toclevel@\x}{%
3679       \@onelevel@sanitize\x
3680       \edef\y{\expandafter\@car\x\@nil}%
3681       \ifcase 0\expandafter\ifx\y-1\fi
3682         \expandafter\ifnum\expandafter'\y>47 %
3683         \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
3684       \Hy@Warning{Unknown document division name (\x)}%
3685     \else
3686       \setbox\z@=\hbox{%
3687         \count@=\x
3688         \xdef\Hy@bookmarksdepth{\the\count@}%
3689       }%
3690     \fi
3691   }{}%
3692   \setbox\z@=\hbox{%
3693     \count@=\csname toclevel@\x\endcsname
3694     \xdef\Hy@bookmarksdepth{\the\count@}%

```

```

3695     }%
3696   }%
3697   \fi
3698 \endgroup
3699 }

```

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

```

3700 \define@key{Hyp}{bookmarksopenlevel}{%
3701   \def\@bookmarksopenlevel{#1}%
3702 }
3703 \def\@bookmarksopenlevel{\maxdimen}
3704 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3705 \define@key{Hyp}{bookmarkstype}{%
3706   \def\Hy@bookmarkstype{#1}%
3707 }
3708 \def\Hy@bookmarkstype{toc}

```

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

```

3709 \define@key{Hyp}{bookmarksnumbered}[true]{%
3710   \Hy@boolkey{bookmarksnumbered}{#1}%
3711 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3712 \define@key{Hyp}{CJKbookmarks}[true]{%
3713   \Hy@boolkey{CJKbookmarks}{#1}%
3714 }

3715 \def\Hy@temp#1{%
3716   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3717 }
3718 \def\Hy@@temp#1#2#3{%
3719   \define@key{Hyp}{#2color}{%
3720     \HyColor@HyperrefColor{##1}#1%
3721   }%
3722   \def#1{#3}%
3723 }
3724 \Hy@temp{link}{red}
3725 \Hy@temp{anchor}{black}
3726 \Hy@temp{cite}{green}
3727 \Hy@temp{file}{cyan}
3728 \Hy@temp{url}{magenta}
3729 \Hy@temp{menu}{red}
3730 \Hy@temp{run}{\@filecolor}
3731 \define@key{Hyp}{pagecolor}{%
3732   \Hy@WarningPageColor
3733 }
3734 \def\Hy@WarningPageColor{%
3735   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
3736   \global\let\Hy@WarningPageColor\relax
3737 }
3738 \define@key{Hyp}{allcolors}{%
3739   \HyColor@HyperrefColor{#1}\@linkcolor
3740   \HyColor@HyperrefColor{#1}\@anchorcolor
3741   \HyColor@HyperrefColor{#1}\@citecolor
3742   \HyColor@HyperrefColor{#1}\@filecolor
3743   \HyColor@HyperrefColor{#1}\@urlcolor
3744   \HyColor@HyperrefColor{#1}\@menucolor
3745   \HyColor@HyperrefColor{#1}\@runcolor

```

```

3746 }
3747 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3748 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3749 \let\@baseurl\@empty
3750 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3751 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3752 \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.

```

3753 \let\@pdfpagetransition\relax
3754 \define@key{Hyp}{pdfpagetransition}{%
3755   \def\@pdfpagetransition{#1}%
3756 }

```

`\@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.

```

3757 \let\@pdfpageduration\relax
3758 \define@key{Hyp}{pdfpageduration}{%
3759   \def\@pdfpageduration{#1}%
3760   \Hy@Match\@pdfpageduration{%
3761     ^(|[0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3762   }{%
3763     \Hy@Warning{%
3764       Invalid value ‘\@pdfpageduration’\MessageBreak
3765       of option ‘pdfpageduration’\MessageBreak
3766       is replaced by an empty value%
3767     }%
3768     \let\@pdfpageduration\ltx@empty
3769   }%
3770 }

```

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.

```

3771 \newif\ifHy@useHidKey
3772 \Hy@useHidKeyfalse
3773 \define@key{Hyp}{pdfpagehidden}[true]{%
3774   \Hy@boolkey{pdfpagehidden}{#1}%
3775   \ifHy@pdfpagehidden
3776     \global\Hy@useHidKeytrue
3777   \fi
3778 }

```

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).

```

3779 \def\Hy@ColorList{cite,file,link,menu,run,url}
3780 \@for\Hy@temp:=\Hy@ColorList\do{%
3781   \edef\Hy@temp{%
3782     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3783       \noexpand\HyColor@HyperrefBorderColor
3784       {##1}%
3785       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3786       {hyperref}%
3787       {\Hy@temp bordercolor}%
3788     }%
3789   }%
3790   \Hy@temp
3791 }
3792 \define@key{Hyp}{pagebordercolor}{%
3793   \Hy@WarningPageBorderColor
3794 }
3795 \def\Hy@WarningPageBorderColor{%
3796   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3797   \global\let\Hy@WarningPageBorderColor\relax
3798 }
3799 \define@key{Hyp}{allbordercolors}{%
3800   \def\Hy@temp##1##2{%
3801     \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3802   }%
3803   \Hy@temp\@citebordercolor{cite}%
3804   \Hy@temp\@filebordercolor{file}%
3805   \Hy@temp\@linkbordercolor{link}%
3806   \Hy@temp\@menubordercolor{menu}%
3807   \Hy@temp\@runbordercolor{run}%
3808   \Hy@temp\@urlbordercolor{url}%
3809 }
3810 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3811 \Hy@DefNameKey{pdfhighlight}{%
3812   \do{/I}{Invert}%
3813   \do{/N}{None}%
3814   \do{/O}{Outline}%
3815   \do{/P}{Push}%
3816 }
3817 \define@key{Hyp}{pdfborder}{%
3818   \let\Hy@temp\@pdfborder
3819   \def\@pdfborder{#1}%
3820   \Hy@Match\@pdfborder{%
3821     ~\HyPat@NonNegativeReal/ %
3822     \HyPat@NonNegativeReal/ %
3823     \HyPat@NonNegativeReal/%
3824     ( ?[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*])?%%
3825   }{}{%
3826     \Hy@Warning{%
3827       Invalid value '\@pdfborder'\MessageBreak
3828       for option 'pdfborder'\MessageBreak
3829       Option setting is ignored%
3830     }%
3831     \let\@pdfborder\Hy@temp
3832   }%
3833 }

```

```

3834 \define@key{Hyp}{pdfborderstyle}{%
3835   \let\Hy@temp\@pdfborderstyle
3836   \def\@pdfborderstyle{#1}%
3837   \Hy@Match\@pdfborderstyle{%
3838     ~%
3839     ( */Type */Border%
3840     | */W +\HyPat@NonNegativeReal/%
3841     | */S */[SDBIU]%
3842     | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?]%
3843     )* *$%
3844   }{}{%
3845     \Hy@Warning{%
3846       Invalid value '\@pdfborderstyle'\MessageBreak
3847       for option 'pdfborderstyle'\MessageBreak
3848       Option setting is ignored%
3849     }%
3850     \let\@pdfborderstyle\Hy@temp
3851   }%
3852 }
3853 \def\Hy@setpdfborder{%
3854   \ifx\@pdfborder\@empty
3855     \else
3856       /Border[\@pdfborder]%
3857     \fi
3858   \ifx\@pdfborderstyle\@empty
3859     \else
3860       /BS<<\@pdfborderstyle>>%
3861     \fi
3862 }
3863 \Hy@DefNameKey{pdfpagemode}{%
3864   \do{UseNone}{}%
3865   \do{UseOutlines}{}%
3866   \do{UseThumbs}{}%
3867   \do{FullScreen}{}%
3868   \do{UseOC}{PDF 1.5}%
3869   \do{UseAttachments}{PDF 1.6}%
3870 }
3871 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3872   \do{UseNone}{}%
3873   \do{UseOutlines}{}%
3874   \do{UseThumbs}{}%
3875   \do{FullScreen}{}%
3876   \do{UseOC}{PDF 1.5}%
3877   \do{UseAttachments}{PDF 1.6}%
3878 }
3879 \Hy@DefNameKey{pdfdirection}{%
3880   \do{L2R}{Left to right}%
3881   \do{R2L}{Right to left}%
3882 }
3883 \Hy@DefNameKey{pdfviewarea}{%
3884   \do{MediaBox}{}%
3885   \do{CropBox}{}%
3886   \do{BleedBox}{}%
3887   \do{TrimBox}{}%
3888   \do{ArtBox}{}%
3889 }
3890 \Hy@DefNameKey{pdfviewclip}{%

```

```

3891 \do{MediaBox}{}%
3892 \do{CropBox}{}%
3893 \do{BleedBox}{}%
3894 \do{TrimBox}{}%
3895 \do{ArtBox}{}%
3896 }
3897 \Hy@DefNameKey{pdfprintarea}{%
3898 \do{MediaBox}{}%
3899 \do{CropBox}{}%
3900 \do{BleedBox}{}%
3901 \do{TrimBox}{}%
3902 \do{ArtBox}{}%
3903 }
3904 \Hy@DefNameKey{pdfprintclip}{%
3905 \do{MediaBox}{}%
3906 \do{CropBox}{}%
3907 \do{BleedBox}{}%
3908 \do{TrimBox}{}%
3909 \do{ArtBox}{}%
3910 }
3911 \Hy@DefNameKey{pdfprintscaling}{%
3912 \do{AppDefault}{}%
3913 \do{None}{}%
3914 }
3915 \Hy@DefNameKey{pdfduplex}{%
3916 \do{Simplex}{}%
3917 \do{DuplexFlipShortEdge}{}%
3918 \do{DuplexFlipLongEdge}{}%
3919 }
3920 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3921 \do{true}{}%
3922 \do{false}{}%
3923 }
3924 \define@key{Hyp}{pdfprintpagerange}{%
3925 \def\@pdfprintpagerange{#1}%
3926 }
3927 \Hy@DefNameKey{pdfnumcopies}{%
3928 \do{2}{two copies}%
3929 \do{3}{three copies}%
3930 \do{4}{four copies}%
3931 \do{5}{five copies}%
3932 }
3933 \define@key{Hyp}{pdfusetitle}[true]{%
3934 \Hy@boolkey{pdfusetitle}{#1}%
3935 }
3936 \def\HyXeTeX@CheckUnicode{%
3937 \ifxetex
3938 \ifHy@unicode
3939 \else
3940 \Hy@WarningNoLine{%
3941 XeTeX driver only supports unicode.\MessageBreak
3942 Enabling option 'unicode'%
3943 }%
3944 \kvsetkeys{Hyp}{unicode}%
3945 \fi
3946 \else
3947 \let\HyXeTeX@CheckUnicode\relax

```

```

3948 \fi
3949 }
3950 \def\HyPsd@PrerenderUnicode#1{%
3951 \begingroup
3952 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3953 \else
3954 \sbox0{%
3955 \let\GenericInfo\@gobbletwo
3956 \let\GenericWarning\@gobbletwo
3957 \let\GenericError\@gobblefour
3958 \PrerenderUnicode{#1}%
3959 }%
3960 \fi
3961 \endgroup
3962 }
3963 \define@key{Hyp}{pdftitle}{%
3964 \HyXeTeX@CheckUnicode
3965 \HyPsd@XeTeXBigCharstrue
3966 \HyPsd@PrerenderUnicode{#1}%
3967 \pdfstringdef\@pdftitle{#1}%
3968 }
3969 \define@key{Hyp}{pdfauthor}{%
3970 \HyXeTeX@CheckUnicode
3971 \HyPsd@XeTeXBigCharstrue
3972 \HyPsd@PrerenderUnicode{#1}%
3973 \pdfstringdef\@pdfauthor{#1}%
3974 }
3975 \define@key{Hyp}{pdfproducer}{%
3976 \HyXeTeX@CheckUnicode
3977 \HyPsd@XeTeXBigCharstrue
3978 \HyPsd@PrerenderUnicode{#1}%
3979 \pdfstringdef\@pdfproducer{#1}%
3980 \ifxetex
3981 \Hy@Warning{%
3982 pdfproducer: %
3983 xdvipdfmx will use its own setting\MessageBreak
3984 instead of the value given%
3985 }%
3986 \else
3987 \def\Hy@temp{hdvipdfm}%
3988 \ifx\Hy@driver\Hy@temp
3989 \Hy@Warning{%
3990 pdfproducer: %
3991 dvipdfm(x) will use its own setting\MessageBreak
3992 instead of the value given%
3993 }%
3994 \fi
3995 \fi
3996 }
3997 \define@key{Hyp}{pdfcreator}{%
3998 \HyXeTeX@CheckUnicode
3999 \HyPsd@XeTeXBigCharstrue
4000 \HyPsd@PrerenderUnicode{#1}%
4001 \pdfstringdef\@pdfcreator{#1}%
4002 }
4003 \define@key{Hyp}{pdfcreationdate}{%
4004 \begingroup

```

```

4005 \Hy@unicodfalse
4006 \pdfstringdef\@pdfcreationdate{#1}%
4007 \endgroup
4008 }
4009 \define@key{Hyp}{pdfmoddate}{%
4010 \begingroup
4011 \Hy@unicodfalse
4012 \pdfstringdef\@pdfmoddate{#1}%
4013 \endgroup
4014 }
4015 \define@key{Hyp}{pdfsubject}{%
4016 \HyXeTeX@CheckUnicode
4017 \HyPsd@XeTeXBigCharstrue
4018 \HyPsd@PrerenderUnicode{#1}%
4019 \pdfstringdef\@pdfsubject{#1}%
4020 }
4021 \define@key{Hyp}{pdfkeywords}{%
4022 \HyXeTeX@CheckUnicode
4023 \HyPsd@XeTeXBigCharstrue
4024 \HyPsd@PrerenderUnicode{#1}%
4025 \pdfstringdef\@pdfkeywords{#1}%
4026 }
4027 \define@key{Hyp}{pdftrapped}{%
4028 \lowercase{\edef\Hy@temp{#1}}%
4029 \ifx\Hy@temp\HyInfo@trapped@true
4030 \def\@pdftrapped{True}%
4031 \else
4032 \ifx\Hy@temp\HyInfo@trapped@false
4033 \def\@pdftrapped{False}%
4034 \else
4035 \ifx\Hy@temp\HyInfo@trapped@unknown
4036 \def\@pdftrapped{Unknown}%
4037 \else
4038 \ifx\Hy@temp\@empty
4039 \else
4040 \Hy@Warning{%
4041 Unsupported value '#1'\MessageBreak
4042 for option 'pdftrapped'%
4043 }%
4044 \fi
4045 \def\@pdftrapped{}%
4046 \fi
4047 \fi
4048 \fi
4049 }
4050 \def\HyInfo@trapped@true{true}
4051 \def\HyInfo@trapped@false{false}
4052 \def\HyInfo@trapped@unknown{unknown}
4053 \def\HyInfo@TrappedUnsupported{%
4054 \ifx\@pdftrapped\@empty
4055 \else
4056 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
4057 \gdef\HyInfo@TrappedUnsupported{}%
4058 \fi
4059 }
4060 \define@key{Hyp}{pdfinfo}{%
4061 \kvsetkeys{pdfinfo}{#1}%

```

```

4062 }
4063 \def\Hy@temp#1{%
4064   \lowercase{\Hy@temp@A{#1}}{#1}%
4065 }
4066 \def\Hy@temp@A#1#2{%
4067   \define@key{pdfinfo}{#2}{%
4068     \hypersetup{pdf#1={##1}}}%
4069   }%
4070 }
4071 \Hy@temp{Title}
4072 \Hy@temp{Author}
4073 \Hy@temp{Keywords}
4074 \Hy@temp{Subject}
4075 \Hy@temp{Creator}
4076 \Hy@temp{Producer}
4077 \Hy@temp{CreationDate}
4078 \Hy@temp{ModDate}
4079 \Hy@temp{Trapped}
4080 \newif\ifHyInfo@AddonUnsupported
4081 \kv@set@family@handler{pdfinfo}{%
4082   \HyInfo@AddonHandler{#1}{#2}%
4083 }
4084 \let\HyInfo@do\relax
4085 \def\HyInfo@AddonHandler#1#2{%
4086   \ifx\kv@value\relax
4087     \Hy@Warning{%
4088       Option 'pdfinfo': ignoring key '\kv@key' without value%
4089     }%
4090   \else
4091     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
4092     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
4093     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
4094       \ifHyInfo@AddonUnsupported
4095         \Hy@Warning{%
4096           This driver does not support additional\MessageBreak
4097           information entries, therefore\MessageBreak
4098           '\kv@key' is ignored%
4099         }%
4100       \else
4101         \def\HyInfo@tmp##1{%
4102           \kv@define@key{pdfinfo}{##1}{%
4103             \HyXeTeX@CheckUnicode
4104             \HyPsd@XeTeXBigCharstrue
4105             \HyPsd@PrerenderUnicode{###1}%
4106             \pdfstringdef\HyInfo@Value{####1}%
4107             \global\expandafter
4108             \let\csname HyInfo@Value@##1\endcsname
4109               \HyInfo@Value
4110           }%
4111         }%
4112         \expandafter\HyInfo@tmp\expandafter{\HyInfo@Key}%
4113         \global\expandafter
4114         \let\csname KV@pdfinfo@\HyInfo@Key\expandafter\endcsname
4115         \csname KV@pdfinfo@\HyInfo@Key\endcsname
4116       \xdef\HyInfo@AddonList{%
4117         \HyInfo@AddonList
4118         \HyInfo@do{\HyInfo@Key}%

```

```

4119     }%
4120     \kv@parse@normalized{%
4121       \HyInfo@Key={#2}%
4122     }{%
4123       \kv@processor@default{pdfinfo}%
4124     }%
4125     \fi
4126   \else
4127     \kv@parse@normalized{%
4128       \HyInfo@Key={#2}%
4129     }{%
4130       \kv@processor@default{pdfinfo}%
4131     }%
4132     \fi
4133   \fi
4134 }
4135 \def\HyInfo@GenerateAddons{%
4136   \ifHyInfo@AddonUnsupported
4137     \def\HyInfo@Addons{}%
4138   \else
4139     \begingroup
4140     \toks@{}%
4141     \def\HyInfo@do##1{%
4142       \EdefEscapeName\HyInfo@Key{##1}%
4143       \edef\x{%
4144         \toks@{%
4145           \the\toks@
4146           /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
4147         }%
4148       }%
4149       \x
4150     }%
4151     \HyInfo@AddonList
4152     \edef\x{\endgroup
4153       \def\noexpand\HyInfo@Addons{\the\toks@}%
4154     }%
4155     \x
4156   \fi
4157 }
4158 \global\let\HyInfo@AddonList\ltx@empty
4159 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
4160 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
4161 \let\setpdflinkmargin\@gobble
4162 \def\calculate@pdfview#1 #2\{\%
4163   \def\@pdfview{#1}%
4164   \ifx\#2\%
4165     \def\@pdfviewparams{ -32768}%
4166   \else
4167     \def\@pdfviewparams{ #2}%
4168   \fi
4169 }
4170 \begingroup\expandafter\expandafter\expandafter\endgroup
4171 \expandafter\ifx\csname numexpr\endcsname\relax
4172   \def\Hy@number#1{%
4173     \expandafter\@firstofone\expandafter{\number#1}%
4174   }%
4175 \else

```

```

4176 \def\Hy@number#1{%
4177   \the\numexpr#1\relax
4178 }%
4179 \fi
4180 \define@key{Hyp}{pdfstartpage}{%
4181   \ifx\#1\%
4182     \let\@pdfstartpage\ltx@empty
4183   \else
4184     \edef\@pdfstartpage{\Hy@number{#1}}%
4185   \fi
4186 }%
4187 \define@key{Hyp}{pdfstartview}{%
4188   \ifx\#1\%
4189     \let\@pdfstartview\ltx@empty
4190   \else
4191     \hypercalcbpdef\@pdfstartview{/#1}%
4192   \fi
4193 }
4194 \def\HyPat@NonNegativeReal/{%
4195   \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
4196 }
4197 \define@key{Hyp}{pdfremotestartview}{%
4198   \ifx\#1\%
4199     \def\@pdfremotestartview{/Fit}%
4200   \else
4201     \hypercalcbpdef\@pdfremotestartview{#1}%
4202     \edef\@pdfremotestartview{\@pdfremotestartview}%
4203     \Hy@Match\@pdfremotestartview{%
4204       ^{XYZ} -?(null|\HyPat@NonNegativeReal/) %
4205       -?(null|\HyPat@NonNegativeReal/) %
4206       (null|\HyPat@NonNegativeReal/)|%
4207       Fit(|B| %
4208       (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
4209       R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
4210       \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
4211     )}$%
4212   }{}{%
4213     \Hy@Warning{%
4214       Invalid value '\@pdfremotestartview'\MessageBreak
4215       of 'pdfremotestartview'\MessageBreak
4216       is replaced by 'Fit'%
4217     }%
4218     \let\@pdfremotestartview\@empty
4219   }%
4220   \ifx\@pdfremotestartview\@empty
4221     \def\@pdfremotestartview{/Fit}%
4222   \else
4223     \edef\@pdfremotestartview{/ \@pdfremotestartview}%
4224   \fi
4225 \fi
4226 }
4227 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
4228 \define@key{Hyp}{pdftoolbar}[true]{%
4229   \Hy@boolkey{pdftoolbar}{#1}%
4230 }
4231 \define@key{Hyp}{pdfmenubar}[true]{%
4232   \Hy@boolkey{pdfmenubar}{#1}%

```



```

4233 }
4234 \define@key{Hyp}{pdfwindowui}[true]{%
4235   \Hy@boolkey{pdfwindowui}{#1}%
4236 }
4237 \define@key{Hyp}{pdffitwindow}[true]{%
4238   \Hy@boolkey{pdffitwindow}{#1}%
4239 }
4240 \define@key{Hyp}{pdfcenterwindow}[true]{%
4241   \Hy@boolkey{pdfcenterwindow}{#1}%
4242 }
4243 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
4244   \Hy@boolkey{pdfdisplaydoctitle}{#1}%
4245 }
4246 \define@key{Hyp}{pdfa}[true]{%
4247   \Hy@boolkey{pdfa}{#1}%
4248 }
4249 \define@key{Hyp}{pdfnewwindow}[true]{%
4250   \def\Hy@temp{#1}%
4251   \ifx\Hy@temp\@empty
4252     \Hy@pdfnewwindowsetfalse
4253   \else
4254     \Hy@pdfnewwindowsettrue
4255     \Hy@boolkey{pdfnewwindow}{#1}%
4256   \fi
4257 }
4258 \def\Hy@SetNewWindow{%
4259   \ifHy@pdfnewwindowset
4260     /NewWindow %
4261     \ifHy@pdfnewwindow true\else false\fi
4262   \fi
4263 }
4264 \Hy@DefNameKey{pdfpagelayout}{%
4265   \do{SinglePage}{}%
4266   \do{OneColumn}{}%
4267   \do{TwoColumnLeft}{}%
4268   \do{TwoColumnRight}{}%
4269   \do{TwoPageLeft}{PDF 1.5}%
4270   \do{TwoPageRight}{PDF 1.5}%
4271 }
4272 \define@key{Hyp}{pdflang}{%
4273   \def\@pdflang{#1}%
4274 }
4275 \define@key{Hyp}{pdfpagelabels}[true]{%
4276   \Hy@boolkey{pdfpagelabels}{#1}%
4277 }
4278 \define@key{Hyp}{pdfescapeform}[true]{%
4279   \Hy@boolkey{pdfescapeform}{#1}%
4280 }

```

Default values:

```

4281 \def\@linkbordercolor{1 0 0}
4282 \def\@urlbordercolor{0 1 1}
4283 \def\@menubordercolor{1 0 0}
4284 \def\@filebordercolor{0 .5 .5}
4285 \def\@runbordercolor{0 .7 .7}
4286 \def\@citebordercolor{0 1 0}
4287 \def\@pdfhighlight{/I}
4288 \let\@pdftitle\ltx@empty

```

```

4289 \let\@pdfauthor\ltx@empty
4290 \let\@pdfproducer\relax
4291 \def\@pdfcreator{LaTeX with hyperref package}
4292 \let\@pdfcreationdate\ltx@empty
4293 \let\@pdfmoddate\ltx@empty
4294 \let\@pdfsubject\ltx@empty
4295 \let\@pdfkeywords\ltx@empty
4296 \let\@pdftrapped\ltx@empty
4297 \let\@pdfpagescrop\ltx@empty
4298 \def\@pdfstartview{/Fit}
4299 \def\@pdfremotestartview{/Fit}
4300 \def\@pdfstartpage{1}
4301 \let\@pdfprintpagerange\ltx@empty
4302 \let\@pdflang\ltx@empty
4303 \let\PDF@SetupDoc\@empty
4304 \let\PDF@FinishDoc\@empty
4305 \let\phantomsection\@empty
4306 \let\special@paper\@empty
4307 \def\HyperDestNameFilter#1{#1}
4308 \Hy@AtBeginDocument{%
4309   \begingroup
4310     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4311     \dimen@=\x\relax
4312     \ifdim\dimen@>\z@
4313       \else
4314         \dimen@=11in\relax
4315         \Hy@WarningNoLine{%
4316           Height of page (\expandafter\string\x) %
4317           is invalid (\the\x),\MessageBreak
4318           using 11in%
4319         }%
4320       \fi
4321       \dimen@=0.99626401\dimen@
4322       \xdef\Hy@pageheight{\strip@pt\dimen@}%
4323     \endgroup
4324 }
4325 \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.

```

4326 \let\hyper@normalise\ExecuteOptions
4327 \let\ExecuteOptions\hypersetup
4328 \Hy@RestoreCatcodes
4329 \InputIfFileExists{hyperref.cfg}{-}{-}
4330 \Hy@SetCatcodes
4331 \let\ExecuteOptions\hyper@normalise
4332 \ifx\Hy@MaybeStopNow\relax
4333 \else
4334   \Hy@stoppedearlytrue
4335   \expandafter\Hy@MaybeStopNow
4336 \fi
4337 \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.

```

4338 \SetupKeyvalOptions{family=Hyp}
4339 \DeclareLocalOptions{%

```

```

4340 a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4341 }

    Add option tex4ht if package tex4ht is loaded.
4342 \@ifpackagewith{hyperref}{tex4ht}{%
4343 }{%
4344   \@ifpackageloaded{tex4ht}{%
4345     \PassOptionsToPackage{tex4ht}{hyperref}%
4346   }{%
4347     \ltx@ifundefined{HCode}{%
4348     }{%
4349       \begingroup
4350       \def\Hy@pkg{tex4ht}%
4351       \def\Hy@temp@A#1\RequirePackage[#2]#3#4\Hy@NIL{%
4352       \def\Hy@param{#2#3}%
4353       \ifx\Hy@param\ltx@empty
4354         \expandafter\ltx@gobble
4355       \else
4356         \def\Hy@param{#3}%
4357         \ifx\Hy@param\Hy@pkg
4358           \PassOptionsToPackage{#2}{tex4ht}%
4359           \expandafter\expandafter\expandafter\@gobble
4360         \else
4361           \expandafter\expandafter\expandafter\ltx@firstofone
4362         \fi
4363       \fi
4364       {\Hy@temp@A#4\Hy@NIL}%
4365     }%
4366     \expandafter
4367     \Hy@temp@A\@documentclasshook\RequirePackage[]{}\Hy@NIL
4368   \endgroup
4369   \PassOptionsToPackage{tex4ht}{hyperref}%
4370 }%
4371 }%
4372 }

4373 \let\ReadBookmarks\relax
4374 \ProcessKeyvalOptions{Hyp}

```

After processing options.

## 15.1 Package xspace support

```

4375 \def\Hy@xspace@end{}
4376 \ltx@ifundefined{xspaceaddexceptions}{%
4377   \Hy@AtBeginDocument{%
4378     \ltx@ifundefined{xspaceaddexceptions}{%
4379     }{%
4380       \def\Hy@xspace@end{%
4381         \ltx@gobble{end for xspace}%
4382       }%
4383       \xspaceaddexceptions{%
4384         \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4385       }%
4386     }%
4387   }%
4388 }{%
4389   \def\Hy@xspace@end{%
4390     \ltx@gobble{end for xspace}%

```

```

4391 }%
4392 \xspaceaddeexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4393 }

```

## 15.2 Option draft

```

4394 \Hy@AtBeginDocument{%
4395   \ifHy@draft
4396     \let\hyper@@anchor\@gobble
4397     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4398     \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4399     \def\hyper@anchorend{\Hy@xspace@end}%
4400     \let\hyper@linkstart\@gobbletwo
4401     \def\hyper@linkend{\Hy@xspace@end}%
4402     \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4403     \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4404     \def\hyper@link@{#1}#2#3#4{#4\Hy@xspace@end}%
4405     \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4406     \let\PDF@SetupDoc\@empty
4407     \let\PDF@FinishDoc\@empty
4408     \let\@fifthoffive\@secondoftwo
4409     \let\@secondoffive\@secondoftwo
4410     \let\ReadBookmarks\relax
4411     \let\WriteBookmarks\relax
4412     \Hy@WarningNoLine{Draft mode on}%
4413   \fi
4414   \Hy@DisableOption{draft}%
4415   \Hy@DisableOption{nolinks}%
4416   \Hy@DisableOption{final}%
4417 }

```

## 15.3 PDF/A

```

4418 \Hy@DisableOption{pdfa}
4419 \ifHy@pdfa
4420   \kvsetkeys{Hyp}{pdfversion=1.4}%
4421   \Hy@DisableOption{pdfversion}%
4422   \def\Hy@Acrobatmenu#1#2{%
4423     \leavevmode
4424     \begingroup
4425       \edef\x{#1}%
4426       \@onelevel@sanitize\x
4427       \ifx\x\Hy@NextPage
4428         \let\y=Y%
4429       \else
4430         \ifx\x\Hy@PrevPage
4431           \let\y=Y%
4432         \else
4433           \ifx\x\Hy@FirstPage
4434             \let\y=Y%
4435           \else
4436             \ifx\x\Hy@LastPage
4437               \let\y=Y%
4438             \else
4439               \let\y=N%
4440             \fi
4441           \fi
4442         \fi
4443       \fi

```

```

4444 \expandafter\endgroup
4445 \ifx\y Y%
4446 \else
4447 \Hy@Error{%
4448 PDF/A: Named action ‘#1’ is not permitted%
4449 }\@ehc
4450 {#2}%
4451 \expandafter\@gobble
4452 \fi
4453 }%
4454 \def\Hy@temp#1{%
4455 \expandafter\def\csname Hy@#1\endcsname{#1}%
4456 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4457 }%
4458 \Hy@temp{NextPage}%
4459 \Hy@temp{PrevPage}%
4460 \Hy@temp{FirstPage}%
4461 \Hy@temp{LastPage}%
4462 \else
4463 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4464 \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.

```

4465 \Hy@nextfalse
4466 \ltx@ifundefined{spanish@sh@}{\Hy@nexttrue}
4467 \ltx@ifundefined{galician@sh@}{\Hy@nexttrue}
4468 \ltx@ifundefined{estonian@sh@}{\Hy@nexttrue}
4469 \ifHy@next
4470 \let\texttilde\~%
4471 \fi

4472 \def\Hy@wrapper@babel#1#2{%
4473 \begingroup
4474 \Hy@safe@activetrue
4475 \set@display@protect
4476 \edef\x{#2}%
4477 \@onelevel@sanitize\x
4478 \toks@{#1}%
4479 \edef\x{\endgroup\the\toks@{\x}}%
4480 \x
4481 }
4482 \def\Hy@WrapperDef#1{%
4483 \begingroup
4484 \escapechar=\m@ne
4485 \xdef\Hy@gtemp{%
4486 \expandafter\noexpand\csname HyWrap@string#1\endcsname
4487 }%
4488 \endgroup
4489 \edef#1{%
4490 \noexpand\Hy@wrapper@babel
4491 \expandafter\noexpand\Hy@gtemp
4492 }%
4493 \expandafter\def\Hy@gtemp
4494 }

```

```

4495 \ifHy@hyperfigures
4496   \Hy@Info{Hyper figures ON}%
4497 \else
4498   \Hy@Info{Hyper figures OFF}%
4499 \fi
4500 \ifHy@nesting
4501   \Hy@Info{Link nesting ON}%
4502 \else
4503   \Hy@Info{Link nesting OFF}%
4504 \fi
4505 \ifHy@hyperindex
4506   \Hy@Info{Hyper index ON}%
4507 \else
4508   \Hy@Info{Hyper index OFF}%
4509 \fi
4510 \ifHy@plainpages
4511   \Hy@Info{Plain pages ON}%
4512 \else
4513   \Hy@Info{Plain pages OFF}%
4514 \fi
4515 \ifHy@backref
4516   \Hy@Info{Backreferencing ON}%
4517 \else
4518   \Hy@Info{Backreferencing OFF}%
4519 \fi
4520 \ifHy@typexml
4521   \Hy@AtEndOfPackage{%
4522     \RequirePackage{color}%
4523     \RequirePackage{nameref}[2012/07/28]%
4524   }%
4525 \fi
4526 \Hy@DisableOption{typexml}
4527 \ifHy@implicit
4528   \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4529 \else
4530   \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4531   \def\MaybeStopEarly{%
4532     \Hy@Message{Stopped early}%
4533     \Hy@AtBeginDocument{%
4534       \PDF@FinishDoc
4535       \gdef\PDF@FinishDoc{}%
4536     }%
4537     \endinput
4538   }%
4539   \Hy@AtBeginDocument{%
4540     \let\autoref\ref
4541     \let\autopageref\pageref
4542     \ifx\@pdfpagemode\@empty
4543       \gdef\@pdfpagemode{UseNone}%
4544     \fi
4545     \global\Hy@backreffalse
4546   }%
4547   \Hy@AtEndOfPackage{%
4548     \global\let\ReadBookmarks\relax
4549     \global\let\WriteBookmarks\relax
4550   }%
4551 \fi

```

```
4552 \Hy@DisableOption{implicit}
```

### 15.4.1 Driver loading

```
4553 \Hy@AtEndOfPackage{%
4554   \@ifpackageloaded{tex4ht}{%
4555     \def\Hy@driver{htex4ht}%
4556     \Hy@texhttrue
4557   }{}%
```

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.

```
4558   \ifx\Hy@driver\@empty
4559   \else
4560     \def\Hy@temp{hpdftex}%
4561     \ifpdf
4562       \ifx\Hy@driver\Hy@temp
4563       \else
4564         \Hy@WarningNoLine{%
4565           Wrong driver ‘\Hy@driver.def’;\MessageBreak
4566           pdfTeX is running in PDF mode.\MessageBreak
4567           Forcing driver ‘\Hy@temp.def’%
4568         }%
4569         \let\Hy@driver\Hy@temp
4570       \fi
4571     \else
4572       \ifx\Hy@driver\Hy@temp
4573       \Hy@WarningNoLine{%
4574         Wrong driver ‘\Hy@driver.def’;\MessageBreak
4575         pdfTeX is not running in PDF mode.\MessageBreak
4576         Using default driver%
4577       }%
4578       \let\Hy@driver\@empty
4579     \fi
4580   \fi
4581 \fi
4582 \ifHy@texht
4583 \else
4584   \ifx\Hy@driver\@empty
4585   \else
4586     \def\Hy@temp{hxdetex}%
4587     \ifxdetex
4588       \ifx\Hy@driver\Hy@temp
4589       \else
4590         \Hy@WarningNoLine{%
4591           Wrong driver ‘\Hy@driver.def’;\MessageBreak
4592           XeTeX is running.\MessageBreak
4593           Forcing driver ‘\Hy@temp.def’ for XeTeX%
4594         }%
4595         \let\Hy@driver\Hy@temp
4596       \fi
4597     \fi
4598   \fi
4599 \fi
4600 \ifx\Hy@driver\@empty
4601 \else
4602   \def\Hy@temp{hvtexhtm}%
4603   \ifvtexhtml
```

```

4604 \ifx\Hy@driver\Hy@temp
4605 \else
4606 \Hy@WarningNoLine{%
4607   Wrong driver '\Hy@driver.def';\MessageBreak
4608   VTeX is running in HTML mode.\MessageBreak
4609   Forcing driver '\Hy@temp.def'%
4610 }%
4611 \let\Hy@driver\Hy@temp
4612 \fi
4613 \else
4614 \ifx\Hy@driver\Hy@temp
4615 \Hy@WarningNoLine{%
4616   Wrong driver '\Hy@driver.def';\MessageBreak
4617   VTeX is not running in HTML mode.\MessageBreak
4618   Using default driver%
4619 }%
4620 \let\Hy@driver\@empty
4621 \fi
4622 \fi
4623 \fi

```

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

```

4624 \let\HyOpt@DriverType\ltx@empty
4625 \ifx\HyOpt@CustomDriver\ltx@empty
4626 \ifx\Hy@driver\@empty
4627 \def\HyOpt@DriverType{ (autodetected)}%
4628 \providecommand*{\Hy@defaultdriver}{hypertex}%
4629 \ifpdf
4630 \def\Hy@driver{hpdfTeX}%
4631 \else
4632 \ifxetex
4633 \def\Hy@driver{hxetex}%
4634 \else
4635 \ifvtexhtml
4636 \def\Hy@driver{hvtexhtm}%
4637 \def\MaybeStopEarly{%
4638 \Hy@Message{Stopped early}%
4639 \Hy@AtBeginDocument{%
4640 \PDF@FinishDoc
4641 \gdef\PDF@FinishDoc{}}%
4642 }%
4643 \endinput
4644 }%
4645 \else
4646 \ifvtexpdf
4647 \def\Hy@driver{hvtex}%
4648 \else
4649 \ifvtexps
4650 \def\Hy@driver{hvtex}%
4651 \else
4652 \ifx\HyOpt@DriverFallback\ltx@empty
4653 \let\Hy@driver\Hy@defaultdriver
4654 \def\HyOpt@DriverType{ (default)}%
4655 \else
4656 \begingroup
4657 \toks@\expandafter{\HyOpt@DriverFallback}%
4658 \edef\x{\endgroup
4659 \noexpand\kvsetkeys{Hyp}{\the\toks@}%

```



```

4660         }%
4661     \x
4662     \ifx\Hy@driver\ltx@empty
4663         \let\Hy@driver\Hy@defaultdriver
4664         \def\HyOpt@DriverType{ (default)}%
4665     \else
4666         \def\HyOpt@DriverType{ (fallback)}%
4667     \fi
4668 \fi
4669 \fi
4670 \fi
4671 \fi
4672 \fi
4673 \fi
4674 \ifx\Hy@driver\Hy@defaultdriver
4675     \def\Hy@temp{hdwind}%
4676     \ifx\Hy@temp\Hy@driver
4677         \kvsetkeys{Hyp}{colorlinks}%
4678         \PassOptionsToPackage{dviwindo}{color}%
4679     \fi
4680 \fi
4681 \fi
4682 \else
4683     \def\HyOpt@DriverType{ (custom)}%
4684     \let\Hy@driver\HyOpt@CustomDriver
4685 \fi
4686 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4687 \chardef\Hy@VersionChecked=0 %
4688 \input{\Hy@driver.def}%
4689 \ifcase\Hy@VersionChecked
4690     \Hy@VersionCheck{\Hy@driver.def}%
4691 \fi
4692 \let\@unprocessedoptions\relax
4693 \Hy@RestoreCatcodes
4694 \Hy@DisableOption{tex4ht}%
4695 \Hy@DisableOption{pdftex}%
4696 \Hy@DisableOption{nativepdf}%
4697 \Hy@DisableOption{dvipdfm}%
4698 \Hy@DisableOption{dvipdfmx}%
4699 \Hy@DisableOption{dvipdfmx-outline-open}%
4700 \Hy@DisableOption{pdfmark}%
4701 \Hy@DisableOption{dvips}%
4702 \Hy@DisableOption{hypertex}%
4703 \Hy@DisableOption{vtex}%
4704 \Hy@DisableOption{vtexpdfmark}%
4705 \Hy@DisableOption{dviwindo}%
4706 \Hy@DisableOption{dvipsone}%
4707 \Hy@DisableOption{textures}%
4708 \Hy@DisableOption{latex2html}%
4709 \Hy@DisableOption{ps2pdf}%
4710 \Hy@DisableOption{xetex}%
4711 \Hy@DisableOption{driverfallback}%
4712 \Hy@DisableOption{customdriver}%
4713 \Hy@DisableOption{pdfversion}%
4714 }

```

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.

```

4715 \newif\ifHy@DvipdfmxOutlineOpen
4716 \ifxetex
4717   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4718   \else
4719     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4720     \Hy@DvipdfmxOutlineOpenttrue
4721   \fi
4722 \fi
4723 \begingroup\expandafter\expandafter\expandafter\endgroup
4724 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4725 \else
4726   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4727     \Hy@DvipdfmxOutlineOpenttrue
4728   \fi
4729 \fi

```

### 15.4.2 Bookmarks

```

4730 \def\WriteBookmarks{0}
4731 \def\@bookmarkopenstatus#1{%
4732   \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:

```

4733   \ifnum#1<\expandafter\@firstofone\expandafter
4734     {\number\@bookmarksopenlevel} % explicit space
4735   \else
4736     -%
4737   \fi
4738 \else
4739   -%
4740 \fi
4741 }
4742 \ifHy@bookmarks
4743   \Hy@Info{Bookmarks ON}%
4744   \ifx\@pdfpagemode\@empty
4745     \def\@pdfpagemode{UseOutlines}%
4746   \fi
4747 \else
4748   \let\@bookmarkopenstatus\ltx@gobble
4749   \Hy@Info{Bookmarks OFF}%
4750   \Hy@AtEndOfPackage{%
4751     \global\let\ReadBookmarks\relax
4752     \global\let\WriteBookmarks\relax
4753   }%
4754   \ifx\@pdfpagemode\@empty
4755     \def\@pdfpagemode{UseNone}%
4756   \fi
4757 \fi
4758 \Hy@DisableOption{bookmarks}

```

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

```

4759 \def\Hy@CatcodeWrapper#1{%
4760   \let\Hy@endWrap\ltx@empty
4761   \def\TMP@EnsureCode##1##2{%
4762     \edef\Hy@endWrap{%
4763       \Hy@endWrap
4764       \catcode##1 \the\catcode##1\relax
4765     }%

```

```

4766 \catcode##1 ##2\relax
4767 }%
4768 \TMP@EnsureCode{10}{12}% ^^J
4769 \TMP@EnsureCode{33}{12}% !
4770 \TMP@EnsureCode{34}{12}% "
4771 \TMP@EnsureCode{36}{3}% $ (math)
4772 \TMP@EnsureCode{38}{4}% & (alignment)
4773 \TMP@EnsureCode{39}{12}% '
4774 \TMP@EnsureCode{40}{12}% (
4775 \TMP@EnsureCode{41}{12}% )
4776 \TMP@EnsureCode{42}{12}% *
4777 \TMP@EnsureCode{43}{12}% +
4778 \TMP@EnsureCode{44}{12}% ,
4779 \TMP@EnsureCode{45}{12}% -
4780 \TMP@EnsureCode{46}{12}% .
4781 \TMP@EnsureCode{47}{12}% /
4782 \TMP@EnsureCode{58}{12}% :
4783 \TMP@EnsureCode{59}{12}% ;
4784 \TMP@EnsureCode{60}{12}% <
4785 \TMP@EnsureCode{61}{12}% =
4786 \TMP@EnsureCode{62}{12}% >
4787 \TMP@EnsureCode{63}{12}% ?
4788 \TMP@EnsureCode{91}{12}% [
4789 \TMP@EnsureCode{93}{12}% ]
4790 \TMP@EnsureCode{94}{7}% ^ (superscript)
4791 \TMP@EnsureCode{95}{8}% _ (subscript)
4792 \TMP@EnsureCode{96}{12}% '
4793 \TMP@EnsureCode{124}{12}% |
4794 \TMP@EnsureCode{126}{13}% ~ (active)
4795 #1\relax
4796 \Hy@EndWrap
4797 }

```

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

```

4798 \Hy@AtBeginDocument{%
4799 \ifHy@ocgcolorlinks
4800 \kvsetkeys{Hyp}{colorlinks}%
4801 \ifHy@pdfa
4802 \Hy@Warning{%
4803 PDF/A: Optional Content Groups are prohibited,\MessageBreak
4804 using 'colorlinks' instead of 'ocgcolorlinks'%
4805 }%
4806 \Hy@ocgcolorlinksfalse
4807 \fi
4808 \fi
4809 \ifHy@ocgcolorlinks
4810 \else
4811 \Hy@DisableOption{ocgcolorlinks}%
4812 \fi
4813 \ifHy@colorlinks
4814 \def\@pdfborder{0 0 0}%
4815 \let\@pdfborderstyle\@empty
4816 \ifHy@typexml
4817 \else
4818 \Hy@CatcodeWrapper{%
4819 \RequirePackage{color}%
4820 }%

```

```

4821 \fi
4822 \def\Hy@colorlink#1{%
4823 \begingroup
4824 \HyColor@UseColor#1%
4825 }%
4826 \def\Hy@endcolorlink{\endgroup}%
4827 \Hy@Info{Link coloring ON}%
4828 \else
4829 \ifHy@frenchlinks
4830 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4831 \def\Hy@endcolorlink{\endgroup}%
4832 \Hy@Info{French linking ON}%
4833 \else
for grouping consistency:
4834 \def\Hy@colorlink#1{\begingroup}%
4835 \def\Hy@endcolorlink{\endgroup}%
4836 \Hy@Info{Link coloring OFF}%
4837 \fi
4838 \fi
4839 \Hy@DisableOption{colorlinks}%
4840 \Hy@DisableOption{frenchlinks}%
4841 \ifHy@texht
4842 \long\def\@firstoffive#1#2#3#4#5{#1}%
4843 \long\def\@secondoffive#1#2#3#4#5{#2}%
4844 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4845 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4846 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4847 \providecommand*\@safe@activetrue{}%
4848 \providecommand*\@safe@activesfalse{}%
4849 \def\T@ref#1{%
4850 \Hy@safe@activetrue
4851 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4852 \Hy@safe@activesfalse
4853 }%
4854 \def\T@pageref#1{%
4855 \Hy@safe@activetrue
4856 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4857 \Hy@safe@activesfalse
4858 }%
4859 \else
4860 \ifHy@typexml
4861 \else
4862 \Hy@CatcodeWrapper{%
4863 \RequirePackage{nameref}[2012/07/28]%
4864 }%
4865 \fi
4866 \fi
4867 \DeclareRobustCommand\ref{%
4868 \@ifstar\@refstar\T@ref
4869 }%
4870 \DeclareRobustCommand\pageref{%
4871 \@ifstar\@pagerefstar\T@pageref
4872 }%
4873 % \ifclassloaded{memoir}{%
4874 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4875 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4876 % }%

```

```

4877 % } \ltx@secondoftwo
4878 % {%
4879 % \DeclareRobustCommand*{\nameref}{%
4880 % \ifstar\@mem@titlerefno link\@mem@titleref
4881 % }%
4882 % }{%
4883 \DeclareRobustCommand*{\nameref}{%
4884 \ifstar\@namerefstar\T@nameref
4885 }%
4886 % }%
4887 }
4888 \Hy@AtBeginDocument{%
4889 \ifHy@texht
4890 \else
4891 \Hy@CatcodeWrapper\ReadBookmarks
4892 \fi
4893 }
4894 \ifHy@backref
4895 \RequirePackage{backref}%
4896 \else
4897 \let\Hy@backout\@gobble
4898 \fi
4899 \Hy@DisableOption{backref}
4900 \Hy@DisableOption{pagebackref}
4901 \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`.

```

4902 \begingroup
4903 \endlinechar=-1 %
4904 \catcode'\^^A=14 %
4905 \catcode'\^^M\active
4906 \catcode'\%\active
4907 \catcode'\#\active
4908 \catcode'\_\active
4909 \catcode'\$\active
4910 \catcode'\&\active
4911 \gdef\hyper@normalise{^^A
4912 \begingroup
4913 \catcode'\^^M\active
4914 \def^^M{ }^^A
4915 \catcode'\%\active
4916 \let%\@percentchar
4917 \let\%\@percentchar
4918 \catcode'\#\active
4919 \def#{\hyper@hash}^^A
4920 \def\#{\hyper@hash}^^A
4921 \@makeother\&^^A
4922 \edef&{\string&}^^A

```

```

4923 \edef\&\string&^^A
4924 \edef\textunderscore{\string_}^^A
4925 \let\_ \textunderscore
4926 \catcode'\_ \active
4927 \let\_ \textunderscore
4928 \let~\hyper@tilde
4929 \let\~\hyper@tilde
4930 \let\textasciitilde\hyper@tilde
4931 \let\\\@backslashchar
4932 \edef$\string$^^A
4933 \Hy@safe@activetrue
4934 \hyper@n@rmalise
4935 }^^A
4936 \catcode'\#=6 ^^A
4937 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4938 \gdef\hyper@n@rmalise#1#2{^^A
4939 \def\Hy@tempa{#2}^^A
4940 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4941 \ltx@ReturnAfterElseFi{^^A
4942 \hyper@@normalise{#1}^^A
4943 }^^A
4944 \else
4945 \ltx@ReturnAfterFi{^^A
4946 \hyper@@normalise{#1}{#2}^^A
4947 }^^A
4948 \fi
4949 }^^A
4950 \gdef\hyper@@normalise#1#2{^^A
4951 \edef\Hy@tempa{^^A
4952 \endgroup
4953 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4954 }^^A
4955 \Hy@tempa
4956 }^^A
4957 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4958 #1^^A
4959 \ifx\limits#2\limits
4960 \else
4961 \ltx@ReturnAfterFi{^^A
4962 \Hy@RemovePercentCr #2\@nil
4963 }^^A
4964 \fi
4965 }^^A
4966 \endgroup
4967 \providecommand*\hyper@chars{%
4968 \let\#\hyper@hash
4969 \let\%\@percentchar
4970 \Hy@safe@activetrue
4971 }

4972 \def\hyperlink#1#2{%
4973 \hyper@@link{}{#1}{#2}%
4974 }

4975 \def\Hy@VerboseLinkStart#1#2{%
4976 \ifHy@verbose
4977 \begingroup
4978 \Hy@safe@activetrue
4979 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%

```

```

4980 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4981 \xdef\Hy@VerboseGlobalTemp{%
4982 \Hy@VerboseGlobalTemp, %
4983 line \the\inputlineno
4984 }%
4985 \endgroup
4986 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4987 \@onelevel@sanitize\Hy@VerboseLinkInfo
4988 \fi
4989 }

4990 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4991 \def\Hy@VerboseLinkStop{%
4992 \ifHy@verbose
4993 \begingroup
4994 \edef\x{\endgroup
4995 \write\m@ne{%
4996 Package 'hyperref' Info: %
4997 End of reference \Hy@VerboseLinkInfo.%
4998 }%
4999 }%
5000 \x
5001 \fi
5002 }

5003 \def\Hy@VerboseAnchor#1{%
5004 \ifHy@verbose
5005 \begingroup
5006 \Hy@safe@activetrue
5007 \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
5008 \endgroup
5009 \fi
5010 }

5011 \def\Hy@AllowHyphens{%
5012 \relax
5013 \ifhmode
5014 \penalty\@M
5015 \hskip\z@skip
5016 \fi
5017 }

5018 \DeclareRobustCommand*\href{[1][]{%
5019 \begingroup
5020 \setkeys{href}{#1}%
5021 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
5022 }
5023 \def\Hy@href#1{%
5024 \hyper@normalise\href@
5025 }
5026 \begingroup
5027 \catcode'\$=6 %
5028 \catcode'\#=12 %
5029 \gdef\href@#1{\expandafter\href@split$1##\}%
5030 \gdef\href@split$1##$2##$3\\$4{%
5031 \hyper@@link{#1}{#2}{#3}{#4}%
5032 \endgroup
5033 }%
5034 \endgroup

```

Option ‘page’.

```
5035 \define@key{href}{page}{%
5036   \def\Hy@href@page{#1}%
5037 }
5038 \let\Hy@href@page\@empty
5039 \newcount\c@Hy@tempcnt
5040 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
5041 \def\Hy@MakeRemoteAction{%
5042   \ifx\Hy@href@page\@empty
5043     \def\Hy@href@page{0}%
5044   \else
5045     \setcounter{Hy@tempcnt}{\Hy@href@page}%
5046     \ifnum\c@Hy@tempcnt<\@ne
5047       \Hy@Warning{%
5048         Invalid page number (\theHy@tempcnt)\MessageBreak
5049         for remote PDF file.\MessageBreak
5050         Using page 1%
5051       }%
5052     \def\Hy@href@page{0}%
5053   \else
5054     \global\advance\c@Hy@tempcnt\m@ne
5055     \edef\Hy@href@page{\theHy@tempcnt}%
5056   \fi
5057 }
```

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.

```
5058 \ifx\Hy@href@nextactionraw\@empty
5059 \else
5060   \Hy@pdfnewwindowsettrue
5061   \Hy@pdfnewwindowtrue
5062 \fi
5063 }
```

Option ‘pdfremotestartview’.

```
5064 \define@key{href}{pdfremotestartview}{%
5065   \setkeys{Hyp}{pdfremotestartview={#1}}%
5066 }
```

Option ‘pdfnewwindow’.

```
5067 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
5068 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default
```

Option ‘ismap’.

```
5069 \newif\ifHy@href@ismap
5070 \define@key{href}{ismap}[true]{%
5071   \ltx@ifundefined{Hy@href@ismap#1}{%
5072     \Hy@Error{%
5073       Invalid value (#1) for key ‘ismap’.\MessageBreak
5074       Permitted values are ‘true’ or ‘false’.\MessageBreak
5075       Ignoring ‘ismap’%
5076     }\@ehc
5077   }{%
5078     \csname Hy@href@ismap#1\endcsname
5079   }%
5080 }
```

Option ‘nextactionraw’.

```
5081 \let\Hy@href@nextactionraw\@empty
```



```

5082 \define@key{href}{nextactionraw}{%
5083   \edef\Hy@href@nextactionraw{#1}%
5084   \ifx\Hy@href@nextactionraw\@empty
5085     \else
5086       \Hy@Match\Hy@href@nextactionraw{%
5087         ^(\HyPat@ObjRef/|<<.*[/S[/].+>>|%
5088         \[( ?\HyPat@ObjRef/|<<.*[/S[/].+>>)+ ?])$%
5089       }-}{%
5090         \Hy@Warning{Invalid value for 'nextactionraw':\MessageBreak
5091           \Hy@href@nextactionraw\MessageBreak
5092           The action is discarded%
5093         }%
5094       }%
5095     \ifx\Hy@href@nextactionraw\@empty
5096     \else
5097       \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
5098     \fi
5099   \fi
5100 }
5101 \def\HyPat@ObjRef/{.+}

```

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

```

5102 \RequirePackage{url}
5103 \let\HyOrg@url\url
5104 \def\Hurl{\begingroup \Url}
5105 \DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
5106 \def\nolinkurl@#1{\Hurl{#1}}
5107 \DeclareRobustCommand*{\url}{\hyper@normalise\url@}
5108 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
5109 \DeclareRobustCommand*{\hyperimage}{\hyper@normalise\hyper@image}
5110 \providecommand\hyper@image[2]{#2}
5111 \def\hypertarget#1#2{%
5112   \ifHy@nesting
5113     \hyper@@anchor{#1}{#2}%
5114   \else
5115     \hyper@@anchor{#1}{\relax}#2%
5116   \fi
5117 }

```

`\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.

```

5118 \DeclareRobustCommand*{\hyperref}{%
5119   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
5120 }
5121 \def\Hy@babelnormalise#1[#2]{%
5122   \begingroup
5123     \Hy@safe@activetrue
5124     \edef\Hy@tempa{%
5125       \endgroup
5126       \noexpand#1[#2]}%
5127   }%
5128   \Hy@tempa

```

```

5129 }
5130 \def\@hyperref{\hyper@normalise\@hyperref}
5131 \def\@hyperref#1#2#3{%
5132   \edef\ref@one{\ifx\\#2\\\else#2.\fi#3}%
5133   \expandafter\tryhyper@link\ref@one\\{#1}%
5134 }
5135 \def\tryhyper@link#1\\#2{%
5136   \hyper@@link{#2}{#1}%
5137 }

5138 \def\hyperdef{\@ifnextchar{\label@hyperdef}{\@hyperdef}}
5139 \def\@hyperdef#1#2#3{%, category, name, text
5140   \ifx\\#1\\%
5141     \def\Hy@AnchorName{#2}%
5142   \else
5143     \def\Hy@AnchorName{#1.#2}%
5144   \fi
5145   \ifHy@nesting
5146     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
5147   \else
5148     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}{#3}%
5149   \fi
5150 }

```

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.

```

5151 \def\label@hyperref[#1]{%
5152   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
5153 }%
5154 \def\label@@hyperref#1#2#3{%
5155   \ifx#1\relax
5156     \protect\G@refundefinedtrue
5157     \@latex@warning{%
5158       Hyper reference ‘#2’ on page \thepage \space undefined%
5159     }%
5160     \begingroup
5161       #3%
5162     \endgroup
5163   \else
5164     \hyper@@link{\expandafter\@fifthoffive#1}%
5165       {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5166   \fi
5167 }
5168 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5169                               % anchor text
5170   \@bsphack
5171   \ifx\\#2\\%
5172     \def\Hy@AnchorName{#3}%
5173   \else
5174     \def\Hy@AnchorName{#2.#3}%
5175   \fi
5176   \if@filesw
5177     \protected@write\@auxout{}{%
5178       \string\newlabel{#1}{\{#\}\}\{\Hy@AnchorName\}\}%
5179     }%
5180   \fi
5181   \@esphack
5182   \ifHy@nesting

```

```

5183 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5184 \else
5185 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5186 \fi
5187 }

```

## 16.1 Link box support for XeTeX

```

5188 \newdimen\XeTeXLinkMargin
5189 \setlength{\XeTeXLinkMargin}{2pt}
5190 \ifxetex
5191 \font\XeTeXLink@font=pzdr at 1sp\relax
5192 \newcommand*{\XeTeXLink@space}{%
5193 \begingroup
5194 \XeTeXLink@font
5195 \@xxxii
5196 \endgroup
5197 }%
5198 \newcommand{\XeTeXLinkBox}[1]{%
5199 \begingroup
5200 \leavevmode
5201 \sbox\z@{#1}%
5202 \begingroup
5203 \dimen@=\dp\z@
5204 \advance\dimen@\XeTeXLinkMargin
5205 \setbox\tw@=\llap{%
5206 \hb@xt@\XeTeXLinkMargin{%
5207 \lower\dimen@\hbox{\XeTeXLink@space}%
5208 \hss
5209 }%
5210 }%
5211 \dp\tw@=\dp\z@
5212 \ht\tw@=\ht\z@
5213 \copy\tw@
5214 \endgroup
5215 \copy\z@
5216 \dimen@=\ht\z@
5217 \advance\dimen@\XeTeXLinkMargin
5218 \setbox\tw@=\rlap{%
5219 \hb@xt@\XeTeXLinkMargin{%
5220 \hss
5221 \raise\dimen@\hbox{\XeTeXLink@space}%
5222 }%
5223 }%
5224 \dp\tw@=\dp\z@
5225 \ht\tw@=\ht\z@
5226 \copy\tw@
5227 \endgroup
5228 }%
5229 \else
5230 \newcommand*{\XeTeXLinkBox}[1]{%
5231 \begingroup
5232 \leavevmode
5233 \sbox\z@{#1}%
5234 \copy\z@
5235 \endgroup
5236 }%

```

5237 \fi

## 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.

```
5238 \def\hyper@@link{\let\Hy@reserved@a\relax
5239 \ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5240 }
5241 % #1: type
5242 % #2: URL
5243 % #3: destination name
5244 % #4: text
5245 \def\hyper@link@[#1]#2#3#4{%
5246 \ltx@ifempty{#4}{% link text
5247 \Hy@Warning{Suppressing empty link}%
5248 }{%
5249 \begingroup
5250 \protected@edef\Hy@tempa{#2}%
5251 \edef\Hy@tempb{#3}%
5252 \ifx\Hy@tempa\ltx@empty
5253 \ifx\Hy@tempb\ltx@empty
5254 \Hy@Warning{Suppressing link with empty target}%
5255 \toks@{%
5256 \endgroup
5257 \ltx@secondoftwo
5258 }%
5259 \else
5260 \toks@{%
5261 \endgroup
5262 \hyper@link{#1}%
5263 }%
5264 \fi
5265 \else
5266 \toks@{%
5267 \endgroup
5268 \expandafter\hyper@readexternallink#2\{#1}%
5269 }%
5270 \fi
5271 \Hy@safe@activesfalse
5272 \toks@\expandafter{%
5273 \the\expandafter\toks@
5274 \expandafter{\Hy@tempb}{#4}%
5275 }%
5276 \the\toks@
5277 }%
5278 }
```

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.

```
5279 \def\hyper@readexternallink#1\{#2#3#4{%
5280 \begingroup
```

```

5281 \let\\\relax
5282 \expandafter\endgroup
5283 \expandafter\@hyper@@readexternallink#1\\#{#2}{#3}{#4}%
5284 }
5285 \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.

```

5286 \@hyper@readexternallink#{#2}{#3}{#4}#1::\#{#1}%
5287 }

```

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

```

5288 \def\@pdfwordfile{file}%
5289 \def\@pdfwordrun{run}%
5290 \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:

```

5291 \ifx\\#6\\%
5292 \hyper@linkfile file:#7\\#{#3}{#2}{#7}%
5293 \else
5294 \ifx\\#4\\%
5295 \hyper@linkfile file:#7\\#{#3}{#2}{#7}%
5296 \else

```

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

```

5297 \def\@pdfempa{#4}%
5298 \ifx\@pdfempa\@pdfwordfile
5299 \hyper@linkfile#7\\#{#3}{#2}{#7}%
5300 \else

```

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

```

5301 \ifx\@pdfempa\@pdfwordrun
5302 \ifHy@pdfa
5303 \Hy@Error{%
5304 PDF/A: Launch action is prohibited%
5305 }\@ehc
5306 \begingroup
5307 \leavevmode
5308 #2%
5309 \endgroup
5310 \else
5311 \hyper@launch#7\\#{#3}{#2}%
5312 \fi
5313 \else

```

otherwise its a URL

```

5314 \hyper@linkurl{#3}{#7\ifx\\#2\\else\hyper@hash#2\fi}%
5315 \fi
5316 \fi
5317 \fi
5318 \fi
5319 }

```

By default, turn run: into file:

```

5320 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
5321 \hyper@linkurl{#2}{%
5322 \Hy@linkfileprefix
5323 #1%
5324 \ifx\\#3\\%
5325 \else
5326 \hyper@hash
5327 #3%
5328 \fi
5329 }%
5330 }

```

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

```

5331 \def\@hyper@linkfile file:#1\\#2#3#4{%
5332 %file url,link string, name, original uri
5333 \filename@parse{#1}%
5334 \ifx\filename@ext\relax
5335 \edef\filename@ext{\XR@ext}%
5336 \fi
5337 \def\use@file{\filename@area\filename@base.\filename@ext}%
5338 \Hy@IfStringEndsWith\filename@ext\XR@ext{%
5339 \hyper@linkfile{#2}{\use@file}{#3}%
5340 }{%
5341 \ifx\@baseurl\@empty
5342 \hyper@linkurl{#2}{%
5343 #4\ifx\\#3\\else\hyper@hash#3\fi
5344 }%
5345 \else
5346 \hyper@linkurl{#2}{\use@file\ifx\\#3\\else\hyper@hash#3\fi}%
5347 \fi
5348 }%
5349 }

5350 \def\Hy@IfStringEndsWith#1#2{%
5351 \begingroup
5352 \edef\x{#1}%
5353 \@onelevel@sanitize\x
5354 \edef\x{.\x}%
5355 \edef\y{#2}%
5356 \@onelevel@sanitize\y
5357 \edef\y{.\y}%
5358 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5359 \endgroup
5360 \ifx\relax##2\relax
5361 \expandafter\ltx@secondoftwo
5362 \else
5363 \expandafter\ltx@firstoftwo
5364 \fi
5365 }%

```

```

5366 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5367 }

5368 \def\Hy@StringLocalhost{localhost}
5369 \@onelevel@sanitize\Hy@StringLocalhost
5370 \def\Hy@CleanupFile#1{%
5371   \edef#1{#1}%
5372   \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5373 }
5374 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5375   \begingroup
5376     \toks@{\endgroup}%
5377     \def\x{#1}%
5378     \ifx\x\@empty
5379       \def\x{#2}%
5380       \ifx\x\@empty
5381         \toks@{\endgroup\def#5{/#3}}%
5382       \else
5383         \@onelevel@sanitize\x
5384         \ifx\x\Hy@StringLocalhost
5385           \toks@{\endgroup\def#5{/#3}}%
5386         \fi
5387       \fi
5388     \fi
5389   \the\toks@
5390 }

```

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.

```

5391 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5392 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5393   \ifx\#1\%
5394     #2\Hy@Warning{Ignoring empty anchor}%
5395   \else
5396     \def\anchor@spot{#2#3}%
5397     \let\put@me@back\@empty
5398     \ifx\relax#2\relax
5399     \else
5400       \ifHy@nesting
5401       \else
5402         \ifcat a\@noexpand#2\relax
5403         \else
5404           \ifcat 0\@noexpand#2 \relax
5405           \else
5406             % \typeout{Anchor start is not alphanumeric %
5407             % on input line\the\inputlineno%
5408             }%
5409           \let\anchor@spot\@empty
5410           \def\put@me@back{#2#3}%
5411         \fi
5412       \fi
5413     \fi
5414   \fi

```

```

5415 \ifHy@activeanchor
5416 \anchor@spot
5417 \else
5418 \hyper@anchor{#1}%
5419 \fi
5420 \expandafter\put@me@back
5421 \fi
5422 \let\anchor@spot\@empty
5423 }
5424 \let\anchor@spot\ltx@empty

```

## 18 Option ‘destlabel’

```

5425 \ifHy@destlabel

\hyper@newdestlabel

5426 \def\hyper@newdestlabel#1#2{%
5427 \begingroup
5428 \Hy@safe@activetrue
5429 \edef\x{\endgroup
5430 \noexpand\@newl@bel{HyDL}{#1}{#2}%
5431 }%
5432 \x
5433 }%

\hyper@destlabel@hook

5434 \providecommand*\hyper@destlabel@hook{}%

\Hy@DestRename

5435 \newcommand*\Hy@DestRename[2]{%
5436 \ltx@ifundefined{HyDL!#1}{%
5437 \begingroup
5438 \Hy@safe@activetrue
5439 \edef\dest@name{#1}%
5440 \edef\label@name{#2}%
5441 \hyper@destlabel@hook
5442 \Hy@IsNotEmpty{dest@name}{%
5443 \Hy@IsNotEmpty{label@name}{%
5444 \global\expandafter
5445 \let\csname HyDL!#1\endcsname\ltx@empty
5446 \if@files
5447 \protected@write\@auxout{}{%
5448 \string\hyper@newdestlabel
5449 {#1}%
5450 {\label@name}%
5451 }%
5452 \fi
5453 }%
5454 }%
5455 \endgroup
5456 }{}%
5457 }%

\HyperDestRename

5458 \newcommand*\HyperDestRename[2]{%
5459 \AtBeginDocument{%

```



```

5460 \Hy@DestRename{#1}{#2}%
5461 }%
5462 }%
5463 \AtBeginDocument{%
5464 \let\HyperDestRename\Hy@DestRename
5465 }%

```

\Hy@IsNotEmpty

```

5466 \def\Hy@IsNotEmpty#1{%
5467 \ltx@ifundefined{#1}\ltx@gobble{%
5468 \expandafter\ifx\csname#1\endcsname\ltx@empty
5469 \expandafter\ltx@gobble
5470 \else
5471 \expandafter\ltx@firstofone
5472 \fi
5473 }%
5474 }%

5475 \ltx@GlobalAppendToMacro\label@hook{%
5476 \HyperDestRename\@currentHref\label@name
5477 }%

```

\HyperDestLabelReplace

```

5478 \def\HyperDestLabelReplace#1{%
5479 \ltx@ifundefined{HyDL@#1}{%
5480 #1%
5481 }{%
5482 \csname HyDL@#1\endcsname
5483 }%
5484 }%

```

\HyperDestNameFilter

```

5485 \let\HyperDestNameFilter\HyperDestLabelReplace

5486 \else

```

\hyper@newdestlabel

```

5487 \let\hyper@newdestlabel\ltx@gobbletwo

```

\HyperDestLabelReplace

```

5488 \let\HyperDestLabelReplace\ltx@firstofone

```

\HyperDestRename

@gobbletwo

```

5489 \fi
5490 \Hy@DisableOption{destlabel}

```

Provide a dummy default definition of \hyper@newdestlabel inside the .aux files.

```

5491 \AddLineBeginAux{%
5492 \string\providecommand\string\hyper@newdestlabel[2]{}%
5493 }

```

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

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

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

```
5494 \let\htmladdimg\hyperimage
5495 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5496 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5497 \def\htmlref#1#2{% anchor text, label
5498   \label@hyperref[{#2}]{#1}%
5499 }
```

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.

```
5500 \def\@@latextohtmlX{%
5501   \let\hhyperref\hyperref
5502   \def\hyperref##1##2##3##4{% anchor text for HTML
5503     % text to print before label in print
5504     % label
5505     % post-label text in print
5506     ##2\ref{##4}##3%
5507   }%
5508 }
```

## 20 Forms creation

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

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

### 20.1 Field flags

The field flags are organized in a bit set.

```
5509 \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
5510 \def\HyField@NewFlag#1#2{%
5511   \lowercase{\HyField@NewOption{#2}}%
5512   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5513 }
```

```

\HyField@NewFlagOnly
5514 \def\HyField@NewFlagOnly#1#2{%
5515   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5516 }

\HyField@NewOption #1: option name
5517 \def\HyField@NewOption#1{%
5518   \expandafter\newif\csname ifFld@#1\endcsname
5519   \define@key{Field}{#1}[true]{%
5520     \lowercase{\Field@boolkey{##1}}{#1}%
5521   }%
5522 }

\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
5523 \def\HyField@NewBitsetFlag#1#2#3#4{%
5524   \begingroup
5525     \count@=#4\relax
5526     \advance\count@\m@ne
5527     \def\x##1{%
5528       \endgroup
5529       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5530       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5531         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5532           (\number#4) #2%
5533         }%
5534       \else
5535         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5536           \csname HyField@#3@#1\endcsname
5537             /#2%
5538         }%
5539       \fi
5540     }%
5541     \expandafter\x\expandafter{\the\count@}%
5542 }

\HyField@UseFlag The bit set is HyField@#1
5543 \def\HyField@UseFlag#1#2{%
5544   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5545 }

\HyField@@UseFlag
5546 \def\HyField@@UseFlag#1#2{%
5547   \bitsetSetValue{HyField@#2}{%
5548     \csname HyField@#2@#1\endcsname
5549   }{%
5550     \csname ifFld@#1\endcsname 1\else 0\fi
5551   }%
5552 }

\HyField@SetFlag The bit set is HyField@#1
5553 \def\HyField@SetFlag#1#2{%
5554   \lowercase{\HyField@@SetFlag{#2}}{#1}%
5555 }

```

```

\HyField@@SetFlag
5556 \def\HyField@@SetFlag#1#2{%
5557   \bitsetSetValue{HyField@#2}{%
5558     \csname HyField@#2@#1\endcsname
5559   }{1}%
5560 }

\HyField@PrintFlags
5561 \def\HyField@PrintFlags#1#2{%
5562   \ifHy@verbose
5563     \begingroup
5564     \let\Hy@temp\@empty
5565     \let\MessageBreak\relax
5566     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5567     \bitsetGetSetBitList{HyField@#1}\do{%
5568       \edef\Hy@temp{%
5569         \Hy@temp
5570         \csname HyField@#1@\x\endcsname\MessageBreak
5571       }%
5572     }%
5573   \edef\x{\endgroup
5574     \noexpand\Hy@Info{%
5575       Field flags: %
5576       \expandafter\ifx\@car#1\@nil S\else/\fi
5577       #1 %
5578       \bitsetGetDec{HyField@#1} %
5579       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5580       \Hy@temp
5581       for #2%
5582     }%
5583   }\x
5584 \fi
5585 }

```

### 20.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5586 \HyField@NewFlag{Ff}{ReadOnly}{1}
5587 \HyField@NewFlag{Ff}{Required}{2}
5588 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5589 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5590 \HyField@NewFlag{Ff}{Radio}{16}
5591 \HyField@NewFlag{Ff}{Pushbutton}{17}
5592 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5593 \HyField@NewFlag{Ff}{Multiline}{13}
5594 \HyField@NewFlag{Ff}{Password}{14}
5595 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5596 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5597 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5598 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5599 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5600 \HyField@NewFlag{Ff}{Combo}{18}

```

```

5601 \HyField@NewFlag{Ff}{Edit}{19}
5602 \HyField@NewFlag{Ff}{Sort}{20}
5603 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5604 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5605 \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.

```

5606 \newif\ifFld@popdown
5607 \define@key{Field}{popdown}[true]{%
5608 \lowercase{\Field@boolkey{#1}}{popdown}%
5609 }

```

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.

```

5610 \HyField@NewFlag{F}{Invisible}{1}
5611 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5612 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5613 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5614 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5615 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5616 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5617 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5618 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5619 \ifHy@pdfa
5620 \def\HyField@PDFAFflagWarning#1#2{%
5621 \Hy@Warning{%
5622 PDF/A: Annotation flag ‘#1’ must\MessageBreak
5623 be set to ‘#2’%
5624 }%
5625 }%
5626 \Fld@invisiblefalse
5627 \def\Fld@invisibletrue{%
5628 \HyField@PDFAFflagWarning{invisible}{false}%
5629 }%
5630 \Fld@hiddenfalse
5631 \def\Fld@hiddentrue{%
5632 \HyField@PDFAFflagWarning{hidden}{false}%
5633 }%
5634 \Fld@printtrue
5635 \def\Fld@printfalse{%
5636 \HyField@PDFAFflagWarning{print}{true}%
5637 }%
5638 \Fld@nozoomtrue
5639 \def\Fld@nozoomfalse{%
5640 \HyField@PDFAFflagWarning{nozoom}{true}%
5641 }%
5642 \Fld@norotatetrue
5643 \def\Fld@norotatefalse{%
5644 \HyField@PDFAFflagWarning{norotate}{true}%
5645 }%
5646 \Fld@noviewfalse
5647 \def\Fld@noviewtrue{%

```

```

5648 \HyField@PDFAFIWarning{noview}{false}%
5649 }%
5650 \fi

```

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

```

5651 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5652 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5653 \HyField@NewFlag{Submit}{GetMethod}{4}
5654 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5655 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5656 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5657 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5658 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5659 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5660 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5661 \HyField@NewFlag{Submit}{ExclFKey}{12}
5662 \HyField@NewFlag{Submit}{EmbedForm}{14}

5663 \define@key{Field}{export}{%
5664 \lowercase{\def\Hy@temp{#1}}%
5665 \@ifundefined{Fld@export@\Hy@temp}{%
5666 \onelevel@sanitize\Hy@temp
5667 \Hy@Error{%
5668 Unknown export format '\Hy@temp'.\MessageBreak
5669 Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5670 }\@ehc
5671 }{%
5672 \let\Fld@export\Hy@temp
5673 }%
5674 }
5675 \def\Fld@export{fdf}
5676 \@namedef{Fld@export@fdf}{0}%
5677 \@namedef{Fld@export@html}{1}%
5678 \@namedef{Fld@export@xfdf}{2}%
5679 \@namedef{Fld@export@pdf}{3}%

```

### 20.1.2 Set submit flags

\HyField@FlagsSubmit

```

5680 \def\HyField@FlagsSubmit{%
5681 \bitsetReset{HyField@Submit}%
5682 \ifcase\@nameuse{Fld@export@\Fld@export} %
5683 % FDF
5684 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5685 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5686 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5687 \HyField@UseFlag{Submit}{IncludeAnnotations}%
5688 \HyField@UseFlag{Submit}{CanonicalFormat}%
5689 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5690 \HyField@UseFlag{Submit}{ExclFKey}%
5691 \HyField@UseFlag{Submit}{EmbedForm}%
5692 \or % HTML
5693 \HyField@SetFlag{Submit}{ExportFormat}%
5694 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5695 \HyField@UseFlag{Submit}{GetMethod}%
5696 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5697 \HyField@UseFlag{Submit}{CanonicalFormat}%

```

```

5698 \or % XFDF
5699   \HyField@SetFlag{Submit}{XFDF}%
5700   \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5701   \HyField@UseFlag{Submit}{SubmitCoordinates}%
5702   \HyField@UseFlag{Submit}{CanonicalFormat}%
5703 \or % PDF
5704   \HyField@SetFlag{Submit}{SubmitPDF}%
5705   \HyField@UseFlag{Submit}{GetMethod}%
5706 \fi
5707 \HyField@PrintFlags{Submit}{submit button field}%
5708 \bitsetIsEmpty{HyField@Submit}{%
5709   \let\Fld@submitflags\tx@empty
5710 }{%
5711   \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5712 }%
5713 }

```

### 20.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5714 \def\HyField@FlagsAnnot#1{%
5715   \bitsetReset{HyField@F}%
5716   \HyField@UseFlag{F}{Invisible}%
5717   \HyField@UseFlag{F}{Hidden}%
5718   \HyField@UseFlag{F}{Print}%
5719   \HyField@UseFlag{F}{NoZoom}%
5720   \HyField@UseFlag{F}{NoRotate}%
5721   \HyField@UseFlag{F}{NoView}%
5722   \HyField@UseFlag{F}{Locked}%
5723   \HyField@UseFlag{F}{ToggleNoView}%
5724   \HyField@UseFlag{F}{LockedContents}%
5725   \HyField@PrintFlags{F}{#1}%
5726   \bitsetIsEmpty{HyField@F}{%
5727     \let\Fld@annotflags\tx@empty
5728   }{%
5729     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5730   }%
5731 }

```

### 20.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5732 \def\HyField@FlagsPushButton{%
5733   \HyField@FlagsAnnot{push button field}%
5734   \bitsetReset{HyField@Ff}%
5735   \HyField@UseFlag{Ff}{ReadOnly}%
5736   \HyField@UseFlag{Ff}{Required}%
5737   \HyField@UseFlag{Ff}{NoExport}%
5738   \HyField@SetFlag{Ff}{PushButton}%
5739   \HyField@PrintFlags{Ff}{push button field}%
5740   \bitsetIsEmpty{HyField@Ff}{%
5741     \let\Fld@flags\tx@empty
5742   }{%
5743     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5744   }%
5745 }

```

### 20.1.5 Check box field

\HyField@FlagsCheckBox

```
5746 \def\HyField@FlagsCheckBox{%
5747   \HyField@FlagsAnnot{check box field}%
5748   \bitsetReset{HyField@Ff}%
5749   \HyField@UseFlag{Ff}{ReadOnly}%
5750   \HyField@UseFlag{Ff}{Required}%
5751   \HyField@UseFlag{Ff}{NoExport}%
5752   \HyField@PrintFlags{Ff}{check box field}%
5753   \bitsetIsEmpty{HyField@Ff}{%
5754     \let\Fld@flags\ltx@empty
5755   }{%
5756     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5757   }%
5758 }
```

### 20.1.6 Radio button field

\HyField@FlagsRadioButton

```
5759 \def\HyField@FlagsRadioButton{%
5760   \HyField@FlagsAnnot{radio button field}%
5761   \bitsetReset{HyField@Ff}%
5762   \HyField@UseFlag{Ff}{ReadOnly}%
5763   \HyField@UseFlag{Ff}{Required}%
5764   \HyField@UseFlag{Ff}{NoExport}%
5765   \HyField@UseFlag{Ff}{NoToggleToOff}%
5766   \HyField@SetFlag{Ff}{Radio}%
5767   \HyField@UseFlag{Ff}{RadiosInUnison}%
5768   \HyField@PrintFlags{Ff}{radio button field}%
5769   \bitsetIsEmpty{HyField@Ff}{%
5770     \let\Fld@flags\ltx@empty
5771   }{%
5772     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5773   }%
5774 }
```

### 20.1.7 Text fields

\HyField@FlagsText

```
5775 \def\HyField@FlagsText{%
5776   \HyField@FlagsAnnot{text field}%
5777   \bitsetReset{HyField@Ff}%
5778   \HyField@UseFlag{Ff}{ReadOnly}%
5779   \HyField@UseFlag{Ff}{Required}%
5780   \HyField@UseFlag{Ff}{NoExport}%
5781   \HyField@UseFlag{Ff}{Multiline}%
5782   \HyField@UseFlag{Ff}{Password}%
5783   \HyField@UseFlag{Ff}{FileSelect}%
5784   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5785   \HyField@UseFlag{Ff}{DoNotScroll}%
5786   \ifFld@comb
5787     \ifcase0\ifFld@multiline
5788       \else\ifFld@password
5789       \else\ifFld@fileselect
5790       \else 1\fi\fi\fi\relax
5791     \Hy@Error{%
```



```

5792     Field option 'comb' cannot used together with\MessageBreak
5793     'multiline', 'password', or 'fileselect'%
5794   }\@ehc
5795   \else
5796     \HyField@UseFlag{Ff}{Comb}%
5797   \fi
5798 \fi
5799 \HyField@UseFlag{Ff}{RichText}%
5800 \HyField@PrintFlags{Ff}{text field}%
5801 \bitsetIsEmpty{HyField@Ff}{%
5802   \let\Fld@flags\ltx@empty
5803 }{%
5804   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5805 }%
5806 }

```

### 20.1.8 Choice fields

\HyField@FlagsChoice

```

5807 \def\HyField@FlagsChoice{%
5808   \HyField@FlagsAnnot{choice field}%
5809   \bitsetReset{HyField@Ff}%
5810   \HyField@UseFlag{Ff}{ReadOnly}%
5811   \HyField@UseFlag{Ff}{Required}%
5812   \HyField@UseFlag{Ff}{NoExport}%
5813   \HyField@UseFlag{Ff}{Combo}%
5814   \ifFld@combo
5815     \HyField@UseFlag{Ff}{Edit}%
5816   \fi
5817   \HyField@UseFlag{Ff}{Sort}%
5818   \HyField@UseFlag{Ff}{MultiSelect}%
5819   \ifFld@combo
5820     \ifFld@edit
5821       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5822     \fi
5823   \fi
5824   \HyField@UseFlag{Ff}{CommitOnSelChange}%
5825   \HyField@PrintFlags{Ff}{choice field}%
5826   \bitsetIsEmpty{HyField@Ff}{%
5827     \let\Fld@flags\ltx@empty
5828   }{%
5829     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5830   }%
5831 }

```

## 20.2 Choice field

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

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

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

```

5832 \def\HyField@PDFChoices#1{%
5833   \begingroup
5834   \global\let\Fld@choices\ltx@empty
5835   \let\HyTmp@optlist\ltx@empty
5836   \let\HyTmp@optitem\relax

```

```

5837 \count@=0 %
5838 \kv@parse{#1}{%
5839 \Hy@pdfstringdef\kv@key\kv@key
5840 \ifx\kv@value\relax
5841 \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5842 \xdef\Fld@choices{\Fld@choices(\kv@key)(\kv@key)}}%
5843 \else
5844 \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5845 \fi
5846 \else
5847 \Hy@pdfstringdef\kv@value\kv@value
5848 \xdef\Fld@choices{\Fld@choices(\kv@value)(\kv@key)}}%
5849 \fi
5850 \edef\HyTmp@optlist{%
5851 \HyTmp@optlist
5852 \HyTmp@optitem{the\count@}{\kv@key}0%
5853 }%
5854 \advance\count@ by 1 %
5855 \@gobbletwo
5856 }%
5857 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5858 \ifFld@multiselect
5859 \HyField@@PDFChoices{DV}\Fld@default
5860 \HyField@@PDFChoices{V}\Fld@value
5861 \else
5862 \ifx\Fld@default\relax
5863 \else
5864 \pdfstringdef\Hy@gtemp\Fld@default
5865 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5866 \fi
5867 \ifx\Fld@value\relax
5868 \else
5869 \pdfstringdef\Hy@gtemp\Fld@value
5870 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5871 \fi
5872 \fi
5873 \endgroup
5874 }

```

\HyField@@PDFChoices

```

5875 \def\HyField@@PDFChoices#1#2{%
5876 \ifx#2\relax
5877 \else
5878 \count@=0 %
5879 \def\HyTmp@optitem##1##2##3{%
5880 \def\HyTmp@key{##2}%
5881 \ifx\HyTmp@key\Hy@gtemp
5882 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5883 \HyTmp@optlist
5884 \HyTmp@optitem{##1}{##2}1%
5885 }%
5886 \let\HyTmp@found=Y%
5887 \else
5888 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5889 \HyTmp@optlist
5890 \HyTmp@optitem{##1}{##2}##3%
5891 }%
5892 \fi

```

```

5893 }%
5894 \expandafter\comma@parse\expandafter{#2}{%
5895 \pdfstringdef\Hy@gtemp\comma@entry
5896 \let\HyTmp@found=N %
5897 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5898 \HyTmp@optlist
5899 \ifx\HyTmp@found Y%
5900 \advance\count@ by 1 %
5901 \else
5902 \@onelevel@sanitize\comma@entry
5903 \PackageWarning{hyperref}{%
5904 \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
5905 \MessageBreak
5906 it cannot be found in the choices%
5907 }%
5908 \fi
5909 \@gobble
5910 }%
5911 \def\HyTmp@optitem##1##2##3{%
5912 \ifnum##3=1 %
5913 (##2)%
5914 \fi
5915 }%
5916 \ifcase\count@
5917 \or
5918 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5919 \else
5920 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5921 \ifx#1V%
5922 \def\HyTmp@optitem##1##2##3{%
5923 \ifnum##3=1 %
5924 \@firstofone{ ##1}%
5925 \fi
5926 }%
5927 \edef\HyTmp@optlist{\HyTmp@optlist}%
5928 \xdef\Fld@choices{%
5929 \Fld@choices
5930 /I[\expandafter\@firstofone\HyTmp@optlist]%
5931 }%
5932 \fi
5933 \fi
5934 \fi
5935 }

```

## 20.3 Forms

\HyField@SetKeys

```

5936 \def\HyField@SetKeys{%
5937 \kvsetkeys{Field}%
5938 }

5939 \newif\ifFld@checked
5940 \newif\ifFld@disabled
5941 \Fld@checkedfalse
5942 \Fld@disabledfalse
5943 \newcount\Fld@menulength
5944 \newdimen\Field@Width

```

```

5945 \newdimen\Fld@charsize
5946 \Fld@charsize=10\p@
5947 \def\Fld@maxlen{0}
5948 \def\Fld@align{0}
5949 \def\Fld@color{0 0 0 rg}
5950 \def\Fld@bcolor{1 1 1}
5951 \def\Fld@bordercolor{1 0 0}
5952 \def\Fld@bordersep{1\p@}
5953 \def\Fld@borderwidth{1}
5954 \def\Fld@borderstyle{S}
5955 \def\Fld@cbsymbol{4}
5956 \def\Fld@radiosymbol{H}
5957 \def\Fld@rotation{0}
5958 \def\Form{\@ifnextchar{\@Form}{\@Form[]}}
5959 \def\endForm{\@endForm}
5960 \newif\ifForm@html
5961 \Form@htmlfalse
5962 \def\Form@boolkey#1#2{%
5963   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5964 }
5965 \define@key{Form}{action}{%
5966   \hyper@normalise\Hy@DefFormAction{#1}%
5967 }
5968 \def\Hy@DefFormAction{\def\Form@action}
5969 \def\enc@html{html}
5970 \define@key{Form}{encoding}{%
5971   \def\Hy@tempa{#1}%
5972   \ifx\Hy@tempa\enc@html
5973     \Form@htmltrue
5974     \def\Fld@export{html}%
5975   \else
5976     \Hy@Warning{%
5977       Form 'encoding' key with \MessageBreak
5978       unknown value '#1'%
5979     }%
5980     \Form@htmlfalse
5981   \fi
5982 }
5983 \define@key{Form}{method}{%
5984   \lowercase{\def\Hy@temp{#1}}%
5985   \@ifundefined{Form@method@\Hy@temp}{%
5986     \@onelevel@sanitize\Hy@temp
5987     \Hy@Error{%
5988       Unknown method '\Hy@temp'\MessageBreak
5989       Known values are 'post' and 'get'%
5990     }\@ehc
5991   }{%
5992     \let\Form@method\Hy@temp
5993     \ifcase\@nameuse{Form@method@\Hy@temp} %
5994       \Fld@getmethodfalse
5995     \else
5996       \Fld@getmethodtrue
5997     \fi
5998   }%
5999 }
6000 \def\Form@method{}
6001 \@namedef{Form@method@post}{0}

```

```

6002 \@namedef{Form@method@get}{1}
6003 \newif\ifHyField@NeedAppearances
6004 \def\HyField@NeedAppearancesfalse{%
6005   \global\let\ifHyField@NeedAppearances\iffalse
6006 }
6007 \def\HyField@NeedAppearancetrue{%
6008   \global\let\ifHyField@NeedAppearances\iftrue
6009 }
6010 \HyField@NeedAppearancetrue
6011 \define@key{Form}{NeedAppearances}[true]{%
6012   \edef\Hy@tempa{#1}%
6013   \ifx\Hy@tempa\Hy@true
6014     \HyField@NeedAppearancetrue
6015   \else
6016     \ifx\Hy@tempa\Hy@false
6017       \HyField@NeedAppearancesfalse
6018     \else
6019       \Hy@Error{%
6020         Unexpected value '\Hy@tempa'\MessageBreak
6021         of option 'NeedAppearances' instead of\MessageBreak
6022         'true' or 'false'%
6023       }\@ehc
6024     \fi
6025   \fi
6026 }
6027 \def\Field@boolkey#1#2{%
6028   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
6029 }
6030 \ifHy@texht
6031   \newtoks\Field@toks
6032   \Field@toks={ }%
6033   \def\Field@addtoks#1#2{%
6034     \edef\@processme{\Field@toks{the\Field@toks\space #1="#2"}}%
6035     \@processme
6036   }%
6037 \else
6038   \def\Hy@WarnHTMLFieldOption#1{%
6039     \Hy@Warning{%
6040       HTML field option '#1'\MessageBreak
6041       is ignored%
6042     }%
6043   }%
6044 \fi
6045 \def\Fld@checkequals#1=#2=#3\\{%
6046   \def\@currDisplay{#1}%
6047   \ifx\\#2\\%
6048     \def\@currValue{#1}%
6049   \else
6050     \def\@currValue{#2}%
6051   \fi
6052 }
6053 \define@key{Field}{loc}{%
6054   \def\Fld@loc{#1}%
6055 }
6056 \define@key{Field}{checked}[true]{%
6057   \lowercase{\Field@boolkey{#1}}{checked}%
6058 }

```

```

6059 \define@key{Field}{disabled}[true]{%
6060   \lowercase{\Field@boolkey{#1}}{disabled}%
6061 }
6062 \ifHy@texht
6063   \define@key{Field}{accesskey}{%
6064     \Field@addtoks{accesskey}{#1}%
6065   }%
6066   \define@key{Field}{tabkey}{%
6067     \Field@addtoks{tabkey}{#1}%
6068   }%
6069 \else
6070   \define@key{Field}{accesskey}{%
6071     \Hy@WarnHTMLFieldOption{accesskey}%
6072   }%
6073   \define@key{Field}{tabkey}{%
6074     \Hy@WarnHTMLFieldOption{tabkey}%
6075   }%
6076 \fi
6077 \define@key{Field}{name}{%
6078   \def\Fld@name{#1}%
6079 }
6080 \let\Fld@altname\relax
6081 \define@key{Field}{altname}{%
6082   \def\Fld@altname{#1}%
6083 }
6084 \let\Fld@mappingname\relax
6085 \define@key{Field}{mappingname}{%
6086   \def\Fld@mappingname{#1}%
6087 }
6088 \define@key{Field}{width}{%
6089   \def\Fld@width{#1}%
6090   \Field@Width#1\setbox0=\hbox{m}%
6091 }
6092 \define@key{Field}{maxlen}{%
6093   \def\Fld@maxlen{#1}%
6094 }
6095 \define@key{Field}{menulength}{%
6096   \Fld@menulength=#1\relax
6097 }
6098 \define@key{Field}{height}{%
6099   \def\Fld@height{#1}%
6100 }
6101 \define@key{Field}{charsize}{%
6102   \setlength{\Fld@charsize}{#1}%
6103 }
6104 \define@key{Field}{borderwidth}{%
6105   \Hy@defaultbp\Fld@borderwidth{#1}%
6106 }
6107 \def\Hy@defaultbp#1#2{%
6108   \begingroup
6109   \afterassignment\Hy@defaultbpAux
6110   \dimen@=#2bp\relax{#1}{#2}%
6111 }
6112 \begingroup\expandafter\expandafter\expandafter\endgroup
6113 \expandafter\ifx\csname dimexpr\endcsname\relax
6114   \def\Hy@defaultbpAux#1\relax#2#3{%
6115     \ifx!#1!%

```

```

6116 \endgroup
6117 \def#2{#3}%
6118 \else
6119 \dimen@=.99626\dimen@
6120 \edef\x{\endgroup
6121 \def\noexpand#2{%
6122 \strip@pt\dimen@
6123 }%
6124 }\x
6125 \fi
6126 }%
6127 \else
6128 \def\Hy@defaultbpAux#1\relax#2#3{%
6129 \ifx!#1!%
6130 \endgroup
6131 \def#2{#3}%
6132 \else
6133 \edef\x{\endgroup
6134 \def\noexpand#2{%
6135 \strip@pt\dimexpr\dimen@*800/803\relax
6136 }%
6137 }\x
6138 \fi
6139 }%
6140 \fi
6141 \define@key{Field}{borderstyle}{%
6142 \let\Hy@temp\Fld@borderstyle
6143 \def\Fld@borderstyle{#1}%
6144 \Hy@Match\Fld@borderstyle{%
6145 ~[SDBIU]$%
6146 }-}{%
6147 \Hy@Warning{%
6148 Invalid value '@pdfborderstyle'\MessageBreak
6149 for option 'pdfborderstyle'. Valid values:\MessageBreak
6150 \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
6151 \space\space I (Inset), U (Underline)\MessageBreak
6152 Option setting is ignored%
6153 }%
6154 \let\Fld@borderstyle\Hy@temp
6155 }%
6156 }
6157 \define@key{Field}{bordersep}{%
6158 \def\Fld@bordersep{#1}%
6159 }
6160 \define@key{Field}{default}{%
6161 \def\Fld@default{#1}%
6162 }
6163 \define@key{Field}{align}{%
6164 \def\Fld@align{#1}%
6165 }
6166 \define@key{Field}{value}{%
6167 \def\Fld@value{#1}%
6168 }
6169 \define@key{Field}{checkboxsymbol}{%
6170 \Fld@DingDef\Fld@cbsymbol{#1}%
6171 }
6172 \define@key{Field}{radiosymbol}{%

```

```

6173 \Fld@DingDef\Fld@radiosymbol{#1}%
6174 }
6175 \def\Fld@DingDef#1#2{%
6176 \let\Fld@temp\ltx@empty
6177 \Fld@@@DingDef#2\ding{}}\@nil
6178 \let#1\Fld@temp
6179 }
6180 \def\Fld@@@DingDef#1\ding#2#3\@nil{%
6181 \expandafter\def\expandafter\Fld@temp\expandafter{%
6182 \Fld@temp
6183 #1%
6184 }%
6185 \ifx\\#3\\%
6186 \expandafter\@gobble
6187 \else
6188 \begingroup
6189 \lccode'0=#2\relax
6190 \lowercase{\endgroup
6191 \expandafter\def\expandafter\Fld@temp\expandafter{%
6192 \Fld@temp
6193 0%
6194 }%
6195 }%
6196 \expandafter\@firstofone
6197 \fi
6198 {%
6199 \Fld@@@DingDef#3\@nil
6200 }%
6201 }

6202 \define@key{Field}{rotation}{%
6203 \def\Fld@rotation{#1}%
6204 }

6205 \define@key{Field}{backgroundcolor}{%
6206 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6207 }
6208 \define@key{Field}{bordercolor}{%
6209 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6210 }
6211 \define@key{Field}{color}{%
6212 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6213 }

6214 \let\Fld@onclick@code\ltx@empty
6215 \let\Fld@format@code\ltx@empty
6216 \let\Fld@validate@code\ltx@empty
6217 \let\Fld@calculate@code\ltx@empty
6218 \let\Fld@keystroke@code\ltx@empty
6219 \let\Fld@onfocus@code\ltx@empty
6220 \let\Fld@onblur@code\ltx@empty
6221 \let\Fld@onmousedown@code\ltx@empty
6222 \let\Fld@onmouseup@code\ltx@empty
6223 \let\Fld@onenter@code\ltx@empty
6224 \let\Fld@onexit@code\ltx@empty
6225 \def\Hy@temp#1{%
6226 \expandafter\Hy@@@temp\csname Fld@#1@code\endcsname{#1}%
6227 }
6228 \def\Hy@@@temp#1#2{%

```



```

6229 \ifHy@pdfa
6230   \define@key{Field}{#2}{%
6231     \Hy@Error{%
6232       PDF/A: Additional action '#2' is prohibited%
6233     }\@ehc
6234   }%
6235 \else
6236   \define@key{Field}{#2}{%
6237     \def#1{##1}%
6238   }%
6239 \fi
6240 }
6241 \Hy@temp{keystroke}
6242 \Hy@temp{format}
6243 \Hy@temp{validate}
6244 \Hy@temp{calculate}
6245 \Hy@temp{onfocus}
6246 \Hy@temp{onblur}
6247 \Hy@temp{onenter}
6248 \Hy@temp{onexit}

6249 \let\Fld@calculate@sortkey\ltx@empty
6250 \define@key{Field}{calculatesortkey}[1]{%
6251   \def\Fld@calculate@sortkey{#1}%
6252 }

6253 \ifHy@texht
6254   \def\Hy@temp#1{%
6255     \define@key{Field}{#1}{%
6256       \Field@addtoks{#1}{##1}%
6257     }%
6258   }%
6259 \else
6260   \def\Hy@temp#1{%
6261     \define@key{Field}{#1}{%
6262       \Hy@WarnHTMLFieldOption{#1}%
6263     }%
6264   }%
6265 \fi
6266 \Hy@temp{ondblclick}
6267 \Hy@temp{onmousedown}
6268 \Hy@temp{onmouseup}
6269 \Hy@temp{onmouseover}
6270 \Hy@temp{onmousemove}
6271 \Hy@temp{onmouseout}
6272 \Hy@temp{onkeydown}
6273 \Hy@temp{onkeyup}
6274 \Hy@temp{onselect}
6275 \Hy@temp{onchange}
6276 \Hy@temp{onkeypress}
6277 \ifHy@texht
6278   \define@key{Field}{onclick}{%
6279     \Field@addtoks{onclick}{#1}%
6280   }%
6281 \else
6282   \ifHy@pdfa
6283     \define@key{Field}{onclick}{%
6284       \Hy@Error{%
6285         PDF/A: Action 'onclick' is prohibited%

```

```

6286     }\@ehc
6287 }%
6288 \else
6289   \define@key{Field}{onclick}{%
6290     \def\Fld@onclick@code{#1}%
6291   }%
6292 \fi
6293 \fi

6294 \DeclareRobustCommand\TextField{%
6295   \@ifnextchar[{\@TextField}{\@TextField[]}%
6296 }
6297 \DeclareRobustCommand\ChoiceMenu{%
6298   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6299 }
6300 \DeclareRobustCommand\CheckBox{%
6301   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6302 }
6303 \DeclareRobustCommand\PushButton{%
6304   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6305 }
6306 \DeclareRobustCommand\Gauge{%
6307   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6308 }
6309 \DeclareRobustCommand\Submit{%
6310   \@ifnextchar[{\@Submit}{\@Submit[]}%
6311 }
6312 \DeclareRobustCommand\Reset{%
6313   \@ifnextchar[{\@Reset}{\@Reset[]}%
6314 }
6315 \def\LayoutTextField#1#2{% label, field
6316   #1 #2%
6317 }
6318 \def\LayoutChoiceField#1#2{% label, field
6319   #1 #2%
6320 }
6321 \def\LayoutCheckField#1#2{% label, field
6322   #1 #2%
6323 }
6324 \def\LayoutPushButtonField#1{% button
6325   #1%
6326 }
6327 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6328 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6329 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6330 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6331 \def\MakeButtonField#1{%
6332   \sbox0{%
6333     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6334   }%
6335   \@tempdima\ht0 %
6336   \advance\@tempdima by \Fld@borderwidth bp %
6337   \advance\@tempdima by \Fld@borderwidth bp %
6338   \ht0\@tempdima
6339   \@tempdima\dp0 %
6340   \advance\@tempdima by \Fld@borderwidth bp %
6341   \advance\@tempdima by \Fld@borderwidth bp %
6342   \dp0\@tempdima

```

```

6343 \box0\relax
6344 }
6345 \def\DefaultHeightofSubmit{14pt}
6346 \def\DefaultWidthofSubmit{2cm}
6347 \def\DefaultHeightofReset{14pt}
6348 \def\DefaultWidthofReset{2cm}
6349 \def\DefaultHeightofCheckBox{\baselineskip}
6350 \def\DefaultWidthofCheckBox{\baselineskip}
6351 \def\DefaultHeightofChoiceMenu{\baselineskip}
6352 \def\DefaultWidthofChoiceMenu{\baselineskip}
6353 \def\DefaultHeightofText{\baselineskip}
6354 \def\DefaultHeightofTextMultiline{4\baselineskip}
6355 \def\DefaultWidthofText{3cm}
6356 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6357 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6358 \def\DefaultOptionsofPushButton{print}
6359 \def\DefaultOptionsofCheckBox{print}
6360 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

6361 \def\DefaultOptionsofListBox{print}
6362 \def\DefaultOptionsofComboBox{print,edit,sort}
6363 \def\DefaultOptionsofPopdownBox{print}
6364 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 21 Setup

```

6365 \ifHy@hyperfigures
6366 \Hy@Info{Hyper figures ON}%
6367 \else
6368 \Hy@Info{Hyper figures OFF}%
6369 \fi
6370 \ifHy@nesting
6371 \Hy@Info{Link nesting ON}%
6372 \else
6373 \Hy@Info{Link nesting OFF}%
6374 \fi
6375 \ifHy@hyperindex
6376 \Hy@Info{Hyper index ON}%
6377 \else
6378 \Hy@Info{Hyper index OFF}%
6379 \fi
6380 \ifHy@backref
6381 \Hy@Info{backreferencing ON}%
6382 \else
6383 \Hy@Info{backreferencing OFF}%
6384 \fi
6385 \ifHy@colorlinks
6386 \Hy@Info{Link coloring ON}%
6387 \else
6388 \Hy@Info{Link coloring OFF}%
6389 \fi
6390 \ifHy@ocgcolorlinks
6391 \Hy@Info{Link coloring with OCG ON}%
6392 \else
6393 \Hy@Info{Link coloring with OCG OFF}%
6394 \fi

```

```

6395 \ifHy@pdfa
6396 \Hy@Info{PDF/A mode ON}%
6397 \else
6398 \Hy@Info{PDF/A mode OFF}%
6399 \fi

```

## 22 Low-level utility macros

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

```

6400 \edef\hyper@hash{\string#}
6401 \edef\hyper@tilde{\string~}
6402 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

6403 \def\@currentHref{Doc-Start}
6404 \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.

```

6405 \Hy@AtBeginDocument{%
6406 \Hy@pdfstringtrue
6407 \PDF@SetupDoc
6408 \let\PDF@SetupDoc\@empty
6409 \Hy@DisableOption{pdfpagescrop}%
6410 \Hy@DisableOption{pdfpagemode}%
6411 \Hy@DisableOption{pdfnonfullscreenpagemode}%
6412 \Hy@DisableOption{pdfdirection}%
6413 \Hy@DisableOption{pdfviewarea}%
6414 \Hy@DisableOption{pdfviewclip}%
6415 \Hy@DisableOption{pdfprintarea}%
6416 \Hy@DisableOption{pdfprintclip}%
6417 \Hy@DisableOption{pdfprintscaling}%
6418 \Hy@DisableOption{pdfduplex}%
6419 \Hy@DisableOption{pdfpicktraybypdfsize}%
6420 \Hy@DisableOption{pdfprintpagerange}%
6421 \Hy@DisableOption{pdfnumcopies}%
6422 \Hy@DisableOption{pdfstartview}%
6423 \Hy@DisableOption{pdfstartpage}%
6424 \Hy@DisableOption{pdftoolbar}%
6425 \Hy@DisableOption{pdfmenubar}%
6426 \Hy@DisableOption{pdfwindowui}%
6427 \Hy@DisableOption{pdfwindow}%
6428 \Hy@DisableOption{pdfcenterwindow}%
6429 \Hy@DisableOption{pdfdisplaydoctitle}%
6430 \Hy@DisableOption{pdfpagelayout}%
6431 \Hy@DisableOption{pdflang}%
6432 \Hy@DisableOption{baseurl}%
6433 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6434 \Hy@pdfstringfalse
6435 }

```

Ignore star from referencing macros:

```

6436 \LetLtxMacro\NoHy@OrgRef\ref
6437 \DeclareRobustCommand*{\ref}{%
6438 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6439 }
6440 \LetLtxMacro\NoHy@OrgPageRef\pageref

```

```

6441 \DeclareRobustCommand*\pageref}{%
6442   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6443 }

```

## 23 Localized nullifying of package

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

```

6444 \def\NoHyper{%
6445   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6446   \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6447   \global\let\hyper@livelink\hyper@link
6448   \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6449   \let\hyper@anchor\ltx@gobble
6450   \let\hyper@anchorstart\ltx@gobble
6451   \def\hyper@anchorend{\Hy@xspace@end}%
6452   \let\hyper@linkstart\ltx@gobbletwo
6453   \def\hyper@linkend{\Hy@xspace@end}%
6454   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6455   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6456   \let\Hy@backout\@gobble
6457 }
6458 \def\stop@hyper{%
6459   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6460   \let\Hy@backout\@gobble
6461   \let\hyper@@anchor\ltx@gobble
6462   \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6463   \let\hyper@anchor\ltx@gobble
6464   \let\hyper@anchorstart\ltx@gobble
6465   \def\hyper@anchorend{\Hy@xspace@end}%
6466   \let\hyper@linkstart\ltx@gobbletwo
6467   \def\hyper@linkend{\Hy@xspace@end}%
6468   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6469   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6470 }
6471 \def\endNoHyper{%
6472   \global\let\hyper@link\hyper@livelink
6473 }
6474 \end{package}

```

## 24 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```

6475 \let\NoHyper\@gobble
6476 \RequirePackage{letltxmacro}[2008/06/13]
6477 \let\hyper@@anchor\@gobble
6478 \def\hyper@link##1##2##3{##3}%

```

```

6479 \let\hyper@anchorstart\@gobble
6480 \let\hyper@anchorend\@empty
6481 \let\hyper@linkstart\@gobbletwo
6482 \let\hyper@linkend\@empty
6483 \def\hyper@linkurl#1#2{#1}%
6484 \def\hyper@linkfile#1#2#3{#1}%
6485 \def\hyper@link@{#1}#2#3{#1}%
6486 \let\PDF@SetupDoc\@empty
6487 \let\PDF@FinishDoc\@empty
6488 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6489 \def\Acrobatmenu#1#2{\leavevmode#2}
6490 \let\pdfstringdefDisableCommands\@gobbletwo
6491 \let\texorpdfstring\@firstoftwo
6492 \let\pdfbookmark\@undefined
6493 \newcommand\pdfbookmark[3]{}
6494 \let\phantomsection\@empty
6495 \let\hypersetup\@gobble
6496 \let\hyperbaseurl\@gobble
6497 \newcommand*{\href}[3][]{#3}
6498 \let\hyperdef\@gobbletwo
6499 \let\hyperlink\@gobble
6500 \let\hypertarget\@gobble
6501 \def\hyperref{%
6502   \ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6503 }
6504 \long\def\@gobbleopt[#1]{}
6505 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

6506 \LetLtxMacro\NoHy@OrgRef\ref
6507 \DeclareRobustCommand*\ref{%
6508   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6509 }
6510 \LetLtxMacro\NoHy@OrgPageRef\pageref
6511 \DeclareRobustCommand*\pageref{%
6512   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6513 }
6514 \let\@nohyperref

```

## 25 The Mangling Of Aux and Toc Files

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

```

6515 \*package
6516 \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.

```

6517 \if@filesw
6518   \ifHy@typexml
6519     \immediate\closeout\@mainaux
6520     \immediate\openout\@mainaux\jobname.aux\relax
6521     \immediate\write\@auxout{<relaxxml>\relax}%

```

```

6522 \fi
6523 \immediate\write\@auxout{%
6524 \string\providecommand\string\HyperFirstAtBeginDocument{%
6525 \string\AtBeginDocument}^^J%
6526 \string\HyperFirstAtBeginDocument{%
6527 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6528 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6529 \string\gdef\string\contentsline%
6530 \string#1\string#2\string#3\string#4{%
6531 \string\oldcontentsline%
6532 {\string#1}{\string#2}{\string#3}}^^J%
6533 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6534 \string\gdef\string\newlabel\string#1\string#2{%
6535 \string\newlabelxx{\string#1}\string#2}^^J%
6536 \string\gdef\string\newlabelxx%
6537 \string#1\string#2\string#3\string#4\string#5\string#6{%
6538 \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.

```

6539 \string\AtEndDocument{%
6540 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6541 \string\let\string\contentsline\string\oldcontentsline^^J%
6542 \string\let\string\newlabel\string\oldnewlabel^^J%
6543 \string\fi%
6544 }^^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.

```

6545 \string\fi%
6546 }^^J%
6547 \string\global\string\let\string\hyper@last\relax^^J%
6548 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6549 }%
6550 \fi
6551 \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.

```

6552 \ifx\hyper@last\@undefined
6553 \def\@starttoc#1{%
6554 \begingroup
6555 \makeatletter
6556 \ltx@ifpackageloaded{parskip}{\parskip\z@}{}%
6557 \IfFileExists{\jobname.#1}{%
6558 \Hy@WarningNoLine{%
6559 old #1 file detected, not used; run LaTeX again%
6560 }%
6561 }{}%
6562 \if@filesw
6563 \expandafter\newwrite\csname tf@#1\endcsname
6564 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6565 \fi
6566 \@nobreakfalse
6567 \endgroup

```

```

6568 }%
6569 \def\newlabel#1#2{\@newlabel{#1}{#2}{-}{-}{-}}%
6570 \fi
6571 }

```

## 26 Title strings

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

```

6572 \ifHy@pdfusetitle
6573 \let\HyOrg@title\title
6574 \let\HyOrg@author\author
6575 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6576 \def\Hy@scanopttitle[#1]{%
6577 \gdef\Hy@title{#1}%
6578 \HyOrg@title{#1}%
6579 }%
6580 \def\Hy@scantitle#1{%
6581 \gdef\Hy@title{#1}%
6582 \HyOrg@title{#1}%
6583 }%
6584 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6585 \def\Hy@scanoptauthor[#1]{%
6586 \gdef\Hy@author{#1}%
6587 \HyOrg@author{#1}%
6588 }%
6589 \def\Hy@scanauthor#1{%
6590 \gdef\Hy@author{#1}%
6591 \HyOrg@author{#1}%
6592 }%

```

The case, that `or` 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.

```

6593 \begingroup
6594 \def\process@me#1\@nil#2{%
6595 \expandafter\let\expandafter\x\csname @#2\endcsname
6596 \edef\y{\expandafter\strip@prefix\meaning\x}%
6597 \def\c##1##2\@nil{%
6598 \ifx\\##1\\%
6599 \else
6600 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6601 \expandafter{\x}%
6602 \fi
6603 }%
6604 \expandafter\c\y\relax#1\@nil
6605 }%
6606 \expandafter\process@me\string\@latex@\@nil{title}%
6607 \expandafter\process@me\string\@latex@\@nil{author}%
6608 \endgroup
6609 \fi
6610 \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.

```

6611 \def\Hy@UseMaketitleString#1{%
6612   \ltx@ifundefined{Hy@#1}{-}{%
6613     \begingroup
6614       \let\Hy@saved@hook\pdfstringdefPreHook
6615       \pdfstringdefDisableCommands{%
6616         \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6617         \let\newline\\%
6618       }%
6619       \expandafter\ifx\csname @pdf#1\endcsname\@empty
6620         \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6621           \csname Hy@#1\endcsname\@empty
6622         }%
6623       \fi
6624       \global\let\pdfstringdefPreHook\Hy@saved@hook
6625     \endgroup
6626   }%
6627 }
6628 \def\Hy@newline@title#1{ #1}
6629 \def\Hy@newline@author#1{, #1}
6630 \def\Hy@UseMaketitleInfos{%
6631   \Hy@UseMaketitleString{title}%
6632   \Hy@UseMaketitleString{author}%
6633 }

```

## 27 Page numbers

This stuff is done by Heiko Oberdiek.

## 28 Every page

```

6634 \RequirePackage{atbegshi}[2007/09/09]
6635 \let\Hy@EveryPageHook\ltx@empty
6636 \let\Hy@EveryPageBoxHook\ltx@empty
6637 \let\Hy@FirstPageHook\ltx@empty
6638 \AtBeginShipout{%
6639   \Hy@EveryPageHook
6640   \ifx\Hy@EveryPageBoxHook\ltx@empty
6641     \else
6642       \setbox\AtBeginShipoutBox=\vbox{%
6643         \offinterlineskip
6644         \Hy@EveryPageBoxHook
6645         \box\AtBeginShipoutBox
6646       }%
6647     \fi
6648 }
6649 \ltx@iffileloaded{hpdftex.def}{%
6650   \AtBeginShipout{%
6651     \Hy@FirstPageHook
6652     \global\let\Hy@FirstPageHook\ltx@empty
6653   }%

```

```

6654 }{%
6655   \AtBeginShipoutFirst{%
6656     \Hy@FirstPageHook
6657   }%
6658 }
6659 \g@addto@macro\Hy@FirstPageHook{%
6660   \PDF@FinishDoc
6661   \global\let\PDF@FinishDoc\ltx@empty
6662 }

```

## 28.1 PDF /PageLabels

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

```

6663 \ifHy@pdfpagelabels
6664   \begingroup\expandafter\expandafter\expandafter\endgroup
6665   \expandafter\ifx\csname thepage\endcsname\relax
6666     \Hy@pdfpagelabelsfalse
6667     \Hy@WarningNoLine{%
6668       Option 'pdfpagelabels' is turned off\MessageBreak
6669       because \string\thepage\space is undefined%
6670     }%
6671     \csname fi\endcsname
6672     \csname iffalse\expandafter\endcsname
6673     \fi

```

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

```

6674 \def\thispdfpagelabel#1{%
6675   \gdef\HyPL@thisLabel{#1}%
6676 }%
6677 \global\let\HyPL@thisLabel\relax

```

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

```

6678 \let\HyPL@Labels\ltx@empty

```

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

```

6679 \newcount\Hy@abspage
6680 \Hy@abspage=0 %

```

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

```

6681 \def\HyPL@LastType{init}%
6682 \def\HyPL@LastNumber{0}%
6683 \let\HyPL@LastPrefix\ltx@empty

```

Definitions for the PDF names of the  $\text{\LaTeX}$  pendants.

```

6684 \def\HyPL@arabic{D}%
6685 \def\HyPL@Roman{R}%
6686 \def\HyPL@roman{r}%
6687 \def\HyPL@Alph{A}%
6688 \def\HyPL@alph{a}%
6689 \let\HyPL@SlidesSetPage\ltx@empty
6690 \ltx@ifclassloaded{slides}{%
6691   \def\HyPL@SlidesSetPage{%
6692     \advance\c@page\ltx@one
6693     \ifnum\value{page}>\ltx@one
6694       \protected@edef\HyPL@SlidesOptionalPage{%

```

```

6695     \Hy@SlidesFormatOptionalPage{\thepage}%
6696   }%
6697 \else
6698   \let\HyPL@SlidesOptionalPage\ltx@empty
6699 \fi
6700 \advance\c@page-\ltx@one
6701 \def\HyPL@page{%
6702   \csname the\Hy@SlidesPage\endcsname
6703   \HyPL@SlidesOptionalPage
6704 }%
6705 }%
6706 }{}%

```

**\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.

```

6707 \def\HyPL@EveryPage{%
6708   \begingroup
6709   \ifx\HyPL@thisLabel\relax
6710     \let\HyPL@page\thepage
6711     \HyPL@SlidesSetPage
6712   \else
6713     \let\HyPL@page\HyPL@thisLabel
6714     \global\let\HyPL@thisLabel\relax
6715   \fi
6716   \let\HyPL@Type\relax
6717   \ifnum\c@page>0 %
6718     \ifx\HyPL@SlidesSetPage\ltx@empty
6719       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6720     \fi
6721   \fi
6722   \let\Hy@temp Y%
6723   \ifx\HyPL@Type\HyPL@LastType
6724   \else
6725     \let\Hy@temp N%
6726   \fi
6727   \ifx\HyPL@Type\relax
6728     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6729   \else
6730     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6731   \fi
6732   \ifx\HyPL@Prefix\HyPL@LastPrefix
6733   \else
6734     \let\Hy@temp N%
6735   \fi
6736   \if Y\Hy@temp
6737     \advance\c@page by -1 %
6738     \ifnum\HyPL@LastNumber=\the\c@page\relax
6739     \else
6740       \let\Hy@temp N%
6741     \fi
6742     \Hy@StepCount\c@page
6743   \fi
6744   \if N\Hy@temp
6745     \ifx\HyPL@Type\relax
6746       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6747     \else
6748       \HyPL@StorePageLabel{%

```

```

6749     \ifx\HyPL@Prefix\@empty
6750     \else
6751       /P(\HyPL@Prefix)%
6752     \fi
6753     /S/\csname HyPL\HyPL@Type\endcsname
6754     \ifnum\the\c@page=1 %
6755     \else
6756       \space/St \the\c@page
6757     \fi
6758   }%
6759 \fi
6760 \fi
6761 \xdef\HyPL@LastNumber{\the\c@page}%
6762 \global\let\HyPL@LastType\HyPL@Type
6763 \global\let\HyPL@LastPrefix\HyPL@Prefix
6764 \endgroup
6765 \Hy@GlobalStepCount\Hy@abspage
6766 }%

```

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

```

6767 \def\HyPL@CheckThePage#1\@nil{%
6768   \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6769 }%

```

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

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

```

6770 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6771   \def\Hy@tempa{#4}%
6772   \def\Hy@tempb{\csname\endcsname\c@page}%
6773   \ifx\Hy@tempa\Hy@tempb
6774     \expandafter\ifx\csname HyPL#3\endcsname\relax
6775     \else
6776       \def\HyPL@Type{#3}%
6777       \def\HyPL@Prefix{#2}%
6778     \fi
6779   \else
6780     \begingroup
6781     \let\Hy@next\endgroup
6782     \let\HyPL@found\@undefined
6783     \def\arabic{\HyPL@Format{arabic}}%
6784     \def\Roman{\HyPL@Format{Roman}}%
6785     \def\roman{\HyPL@Format{roman}}%
6786     \def\Alph{\HyPL@Format{Alph}}%
6787     \def\alph{\HyPL@Format{alph}}%
6788     \protected@edef\Hy@temp{#1}%
6789     \ifx\HyPL@found\relax
6790       \toks@{\expandafter{\Hy@temp}}%
6791       \edef\Hy@next{\endgroup
6792         \noexpand\HyPL@@@CheckThePage\the\toks@
6793         \noexpand\HyPL@found\relax\noexpand\@nil
6794       }%
6795     \fi
6796     \Hy@next
6797   \fi

```

6798 }%

`\HyPL@Format` The help macro `\HyPL@Format` is executed while a `\protected@edef` in the second check method of `\HyPL@@@CheckPage`. The first occurrences of, for example, `\arabic{page}` is marked by `\HyPL@found` that is also defined by `\csname`.

```
6799 \def\HyPL@Format#1#2{%
6800   \ifx\HyPL@found\@undefined
6801     \expandafter\ifx\csname c@#2\endcsname\c@page
6802       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6803     \else
6804       \expandafter\noexpand\csname#1\endcsname{#2}%
6805     \fi
6806   \else
6807     \expandafter\noexpand\csname#1\endcsname{#2}%
6808   \fi
6809 }%
```

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

```
6810 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6811   \def\Hy@tempa{#3}%
6812   \def\Hy@tempb{\HyPL@found\relax}%
6813   \ifx\Hy@tempa\Hy@tempb
6814     \def\HyPL@Type{#2}%
6815     \def\HyPL@Prefix{#1}%
6816   \fi
6817 }%
```

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

```
6818 \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`.

```
6819 \def\HyPL@Useless{0<</S/D>>}%
6820 \@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.

```
6821 \def\HyPL@SetPageLabels{%
6822   \@onelevel@sanitize\HyPL@Labels
6823   \ifx\HyPL@Labels\@empty
6824     \else
6825       \ifx\HyPL@Labels\HyPL@Useless
6826       \else
6827         \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6828       \fi
6829     \fi
6830 }%
```

```
6831 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6832 \fi
```

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

```
6833 \Hy@DisableOption{pdfpagelabels}
6834 \</package>
```

### 28.1.1 pdfTeX and VTeX

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

`\Hy@PutCatalog`

```
6835 ⟨*pdfTeX⟩
6836 \pdf@ifdraftmode{%
6837   \let\Hy@PutCatalog\ltx@gobble
6838 }{%
6839   \let\Hy@PutCatalog\pdfcatalog
6840 }
6841 ⟨/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.

```
6842 ⟨*vtex⟩
6843 \providecommand*{\XR@ext}{pdf}
6844 \edef\Hy@VTeXversion{%
6845   \ifx\VTeXversion\@undefined
6846     \z@
6847   \else
6848     \ifx\VTeXversion\relax
6849       \z@
6850     \else
6851       \VTeXversion
6852     \fi
6853   \fi
6854 }
6855 \begingroup
6856   \ifnum\Hy@VTeXversion<660 %
6857     \gdef\Hy@PutCatalog#1{%
6858       \Hy@WarningNoLine{%
6859         VTeX 6.59g or above required for pdfpagelabels%
6860       }%
6861     }%
6862   \else
6863     \gdef\Hy@PutCatalog#1{%
6864       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6865     }%
6866     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6867       \ifx\#2\%
6868         \else
6869           \immediate\special{!pdfpagelabels #2}%
6870         \fi
6871       }%
6872     \fi
6873 \endgroup
6874 ⟨/vtex⟩

6875 ⟨*pdfTeX | vtex⟩
```

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

```
6876 \ifHy@pdfpagelabels
6877   \def\HyPL@StorePageLabel#1{%
```

```

6878 \toks@\expandafter{\HyPL@Labels}%
6879 \xdef\HyPL@Labels{%
6880 \the\toks@
6881 \the\Hy@abspage<<#1>>%
6882 }%
6883 }%

```

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.

```

6884 \RequirePackage{atveryend}[2009/12/07]%
6885 \AtVeryEndDocument{%
6886 \HyPL@SetPageLabels
6887 }%
6888 \fi
6889 </pdfTeX | vtex>

```

### 28.1.2 xetex

```

6890 <*xetex>
6891 \HyPsd@LoadUnicode
6892 \Hy@unicodetrue
6893 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6894 \else
6895 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6896 \fi
6897 \HyPsd@LoadStringEncoding
6898 \define@key{Hyp}{unicode}[true]{%
6899 \Hy@boolkey{unicode}{#1}%
6900 \ifHy@unicode
6901 \else
6902 \Hy@Warning{%
6903 XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6904 option setting 'unicode=false'%
6905 }%
6906 \Hy@unicodetrue
6907 \fi
6908 }
6909 \define@key{Hyp}{pdfencoding}{%
6910 \edef\HyPsd@temp{#1}%
6911 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6912 \let\HyPsd@pdfencoding\HyPsd@temp
6913 \else
6914 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6915 \let\HyPsd@pdfencoding\HyPsd@temp
6916 \else
6917 \Hy@Warning{%
6918 XeTeX driver only supports\MessageBreak
6919 'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6920 setting 'pdfencoding=\HyPsd@temp'%
6921 }%
6922 \fi
6923 \fi
6924 }
6925 \let\HyXeTeX@CheckUnicode\relax
6926 </xetex>

```

### 28.1.3 pdfmarkbase, dvipdfm, xetex

```

6927 \pdfmarkbase
6928 \begingroup
6929 \ifundefined{headerps@out}{%
6930 \toks@{\expandafter{\Hy@FirstPageHook}%
6931 \xdef\Hy@FirstPageHook{%
6932 \noexpand\headerps@out{%
6933 systemdict /pdfmark known%
6934 {%
6935 userdict /?pdfmark systemdict /exec get put%
6936 }{%
6937 userdict /?pdfmark systemdict /pop get put %
6938 userdict /pdfmark systemdict /cleartomark get put%
6939 }%
6940 ifelse%
6941 }%
6942 \the\toks@
6943 }%
6944 }%
6945 \endgroup
6946 \pdfmarkbase

```

\Hy@PutCatalog

```

6947 \dvipdfm | xetex\def\Hy@PutCatalog#1{\@pdfmark{docview <<#1>>}}
6948 \pdfmarkbase
6949 \def\Hy@PutCatalog#1{%
6950 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>}}%
6951 }
6952 \pdfmarkbase

6953 \pdfmarkbase | dvipdfm | xetex
6954 \ifHy@pdfpagelabels

```

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

```

6955 \def\HyPL@StorePageLabel#1{%
6956 \if@files
6957 \begingroup
6958 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6959 \immediate\write\@mainaux{%
6960 \string\HyPL@Entry{\Hy@tempa}%
6961 }%
6962 \endgroup
6963 \fi
6964 }%

```

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.

```

6965 \Hy@AtBeginDocument{%
6966 \if@files
6967 \immediate\write\@mainaux{%
6968 \string\providecommand\string*\string\HyPL@Entry[1]{}%
6969 }%
6970 \fi
6971 \ifx\HyPL@Labels\@empty
6972 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6973 \else

```



```

6974 \HyPL@SetPageLabels
6975 \fi
6976 \let\HyPL@Entry\@gobble
6977 }%

\HyPL@Entry
6978 \def\HyPL@Entry#1{%
6979 \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6980 \HyPL@Labels
6981 #1%
6982 }%
6983 }%

6984 \fi
6985 </pdfmarkbase | dvipdfm | xetex>

6986 <*package>

6987 \ifx\MaybeStopEarly\relax
6988 \else
6989 \Hy@stoppedeearlytrue
6990 \expandafter\MaybeStopEarly
6991 \fi
6992 \Hy@stoppedeearlyfalse

```

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

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

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

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

Start with a fallback for equations

```

6993 \def\Hy@CounterExists#1{%
6994 \begingroup\expandafter\expandafter\expandafter\endgroup
6995 \expandafter\ifx\csname c@#1\endcsname\relax
6996 \expandafter\@gobble
6997 \else
6998 \begingroup\expandafter\expandafter\expandafter\endgroup
6999 \expandafter\ifx\csname the#1\endcsname\relax
7000 \expandafter\expandafter\expandafter\@gobble
7001 \else
7002 \expandafter\expandafter\expandafter\@firstofone
7003 \fi

```

```

7004 \fi
7005 }
7006 \Hy@CounterExists{section}{%
7007 \providecommand\theHequation{\theHsection.\arabic{equation}}}%
7008 }
7009 \Hy@CounterExists{part}{%
7010 \providecommand\theHpart{\arabic{part}}}%
7011 }
7012 \ltx@ifundefined{thechapter}{%
7013 \providecommand\theHsection {\arabic{section}}}%
7014 \providecommand\theHfigure {\arabic{figure}}}%
7015 \providecommand\theHtable {\arabic{table}}}%
7016 }{%
7017 \providecommand\theHchapter {\arabic{chapter}}}%
7018 \providecommand\theHfigure {\theHchapter.\arabic{figure}}}%
7019 \providecommand\theHtable {\theHchapter.\arabic{table}}}%
7020 \providecommand\theHsection {\theHchapter.\arabic{section}}}%
7021 }
7022 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
7023 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
7024 \providecommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
7025 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
7026 \providecommand\theHtheorem {\theHsection.\arabic{theorem}}
7027 \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.

```

7028 \let\H@item\item
7029 \newcounter{Item}
7030 \def\theHItem{\arabic{Item}}
7031 \def\item{%
7032 \@@hyper@itemfalse
7033 \if@nmbrlist\@@hyper@itemtrue\fi
7034 \H@item
7035 }
7036 \providecommand\theHenumi {\theHItem}
7037 \providecommand\theHenumii {\theHItem}
7038 \providecommand\theHenumiii {\theHItem}
7039 \providecommand\theHenumiv {\theHItem}
7040 \providecommand\theHHfootnote {\arabic{Hfootnote}}
7041 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
7042 \@ifundefined{theHHmpfootnote}{%
7043 \let\theHHmpfootnote\theHHfootnote
7044 }{}

```

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.

```

7045 \let\H@refstepcounter\refstepcounter
7046 \edef\name@of@eq{equation}%
7047 \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.

```

7048 \newif\if@hyper@item
7049 \newif\if@skiphyperref

```

```

7050 \@hyper@itemfalse
7051 \@skiphyperrfalse
7052 \def\refstepcounter#1{%
7053   \ifHy@pdfstring
7054   \else
7055     \H@refstepcounter{#1}%
7056     \edef\This@name{#1}%
7057     \ifx\This@name\name@of@slide
7058     \else
7059       \if@skiphyperr
7060       \else
7061         \if@hyper@item
7062         \stepcounter{Item}%
7063         \hyper@refstepcounter{Item}%
7064         \@hyper@itemfalse
7065       \else
7066         \hyper@refstepcounter{#1}%
7067       \fi
7068     \fi
7069   \fi
7070 \fi
7071 }
7072 \let\Hy@saved@refstepcounter\refstepcounter

```

AMS $\text{\LaTeX}$  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.

```

7073 \@ifpackageloaded{amsmath}{-}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

7074 \def\hyper@refstepcounter#1{%
7075   \edef\This@name{#1}%
7076   \ifx\This@name\name@of@eq
7077   \@ifundefined{theHequation}{%
7078     \make@stripped@name{\theequation}%
7079     \let\theHequation\newname
7080   }{%
7081   \fi
7082   \HyCnt@ProvideTheHCounter{#1}%
7083   \hyper@makecurrent{#1}%
7084   \ifmeasuring@
7085   \else
7086     \Hy@raisedlink{%
7087       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7088     }%
7089   \fi
7090 }

```

`\Hy@ProvideTheHCounter` `\theH<counter>` is not set for counters that are defined before ‘hyperref’ is loaded. In `\cl@ckpt`, the clear counter list of the artificial counter `@ckpt`,  $\text{\LaTeX}$  remembers the defined counters (needed for `\include`). We check the clear counter lists, whether our counter is present. If we found it, then we add the parent counter value to `\theH<counter>`. The `\@elt` list is used in sanitized form for the comparison, because the list might contain other stuff than `\@elts`. Also it simplifies the implementation, because  $\text{\LaTeX}$ , substring search `\in@` can be used.

```

7091 \def\HyCnt@ProvideTheHCounter#1{%
7092   \@ifundefined{theH#1}{%

```

```

7093 \expandafter\def\csname theH#1\endcsname{%
7094 \def\Hy@temp{\@elt{#1}}%
7095 \ltx@onelevel@sanitize\Hy@temp
7096 \let\HyOrg@elt\@elt
7097 \edef\@elt{%
7098 \noexpand\HyCnt@LookForParentCounter
7099 \expandafter\noexpand\csname theH#1\endcsname
7100 }%
7101 \cl@@ckpt
7102 \let\@elt\HyOrg@elt
7103 \expandafter
7104 \ltx@LocalAppendToMacro\csname theH#1\expandafter\endcsname
7105 \expandafter{%
7106 \expandafter\@arabic\csname c@#1\endcsname
7107 }%
7108 }{}%
7109 }

```

\Hy@LookForParentCounter

```

7110 \def\HyCnt@LookForParentCounter#1#2{%
7111 \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
7112 \ltx@ifundefined{cl@#2}{%
7113 }{%
7114 \ltx@onelevel@sanitize\Hy@temp@A
7115 \edef\Hy@temp@A{%
7116 \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
7117 }\Hy@temp@A
7118 \ifin@
7119 \ltx@ifundefined{theH#2}{%
7120 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7121 \expandafter{%
7122 \expandafter\@arabic\csname c@#2\endcsname.%
7123 }%
7124 }{%
7125 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7126 \expandafter{%
7127 \csname theH#2\endcsname.%
7128 }%
7129 }%
7130 \fi
7131 }%
7132 }

```

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`.

```

7133 \begingroup\expandafter\expandafter\expandafter\endgroup
7134 \expandafter\ifx\csname chapter\endcsname\relax
7135 \def\Hy@chapterstring{section}%
7136 \else
7137 \def\Hy@chapterstring{chapter}%
7138 \fi
7139 \def\Hy@appendixstring{appendix}
7140 \def\Hy@chapapp{\Hy@chapterstring}

```

```

7141 \ltx@ifundefined{appendix}{%
7142 }{%
7143   \let\HyOrg@appendix\appendix
7144   \def\Hy@AlphNoErr#1{%
7145     \ifnum\value{#1}>26 %
7146       Alph\number\value{#1}%
7147     \else
7148       \ifnum\value{#1}<1 %
7149         Alph\number\value{#1}%
7150       \else
7151         \Alph{#1}%
7152       \fi
7153     \fi
7154   }%
7155   \def\appendix{%
7156     \ltx@ifundefined{chapter}{%
7157       \gdef\theHsection{\Hy@AlphNoErr{section}}}%
7158     }{%
7159       \gdef\theHchapter{\Hy@AlphNoErr{chapter}}}%
7160     }%
7161     \xdef\Hy@chapapp{\Hy@appendixstring}%
7162     \HyOrg@appendix
7163   }%
7164 }

```

\Hy@Test@alph

```

7165 \def\Hy@Test@alph#1{%
7166   \ifcase#1\or
7167     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
7168     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
7169     u\or v\or w\or x\or y\or z%
7170   \else
7171     \@ctrerr
7172   \fi
7173 }

```

\Hy@Test@Alph

```

7174 \def\Hy@Test@Alph#1{%
7175   \ifcase#1\or
7176     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
7177     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
7178     U\or V\or W\or X\or Y\or Z%
7179   \else
7180     \@ctrerr
7181   \fi
7182 }

```

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

```

7183 \def\hyper@makecurrent#1{%
7184   \begingroup
7185     \Hy@safe@activestruer
7186     \edef\Hy@param{#1}%
7187     \ifx\Hy@param\Hy@chapterstring
7188       \let\Hy@param\Hy@chapapp
7189     \fi
7190     \ifHy@hypertextnames

```

```

7191 \let\@number\@firstofone
7192 \def\@fnsymbol##1{fnsymbol\number##1}%
7193 \def\@arabic##1{\number##1}%
7194 \ifx\@alph\Hy@Test@alph
7195 \else
7196 \def\@alph{alph\number}%
7197 \fi
7198 \ifx\@Alph\Hy@Test@Alph
7199 \else
7200 \def\@Alph{Alph\number}%
7201 \fi
7202 \ifHy@naturalnames
7203 \let\textlatin\@firstofone
7204 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7205 \else
7206 \xdef\HyperGlobalCurrentHref{%
7207 \csname
7208 the%
7209 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7210 #1%
7211 \endcsname
7212 }%
7213 \fi
7214 \xdef\HyperGlobalCurrentHref{%
7215 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7216 }%
7217 \else
7218 \Hy@GlobalStepCount\Hy@linkcounter
7219 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7220 \fi
7221 \endgroup
7222 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7223 \ifHy@localanchorname
7224 \let\@currentHref\HyperLocalCurrentHref
7225 \else
7226 \global\let\@currentHref\HyperGlobalCurrentHref
7227 \fi
7228 }

```

\Hy@MakeCurrentHref

```

7229 \def\Hy@MakeCurrentHref#1{%
7230 \edef\HyperLocalCurrentHref{#1}%
7231 \@onelevel@sanitize\HyperLocalCurrentHref
7232 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
7233 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7234 \ifHy@localanchorname
7235 \let\@currentHref\HyperLocalCurrentHref
7236 \else
7237 \global\let\@currentHref\HyperGlobalCurrentHref
7238 \fi
7239 }

```

\Hy@MakeCurrentHrefAuto

```

7240 \def\Hy@MakeCurrentHrefAuto#1{%
7241 \Hy@GlobalStepCount\Hy@linkcounter
7242 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7243 }

```

```

\@currentHlabel \@currentHlabel is only defined for compatibility with package ‘hypdvips’.
7244 \def\@currentHlabel{\@currentHref}

7245 \@ifpackagelater{fancyvrb}{1998/05/20}{%
7246   \def\FV@StepLineNo{%
7247     \FV@SetLineNo
7248     \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
7249     \FV@StepLineNo
7250   }%
7251 }%
7252 }%
7253 }{}

```

## 30 Package lastpage support

Package lastpage directly writes the `\newlabel` command to the aux file. Because package hyperref requires additional arguments, the internal command `\lastpage@putlabel` is redefined. The patch is deferred by `\AtBeginDocument`, because it is possible that package lastpage is loaded after package hyperref. The same algorithm (options hypertexnames and plainpages) is used to get the page anchor name as in `\Hy@EveryPageAnchor` (see sec. 39). The link will not work if option pageanchor is set to false.

```

\lastpage@putlabel
7254 \Hy@AtBeginDocument{%
7255   \@ifclassloaded{revtex4}{%
7256     \@namedef{ver@lastpage.sty}{1994/06/25}%
7257   }{}%
7258   \@ifpackagelater{lastpage}{%
7259     \ifHy@pageanchor
7260     \else
7261       \Hy@WarningNoLine{%
7262         The \string\pageref{LastPage} link doesn't work\MessageBreak
7263         with disabled option ‘pageanchor’%
7264       }%
7265     \fi
7266     \def\lastpage@putlabel{%
7267       \addtocounter{page}{-1}%
7268       \if@filesw
7269         \begingroup
7270         \let\@number\@firstofone
7271         \ifHy@pageanchor
7272           \ifHy@hypertexnames
7273             \ifHy@plainpages
7274               \def\Hy@temp{\arabic{page}}%
7275             \else
7276               \Hy@unicodedefalse
7277               \pdfstringdef\Hy@temp{\thepage}%
7278             \fi
7279           \else
7280             \def\Hy@temp{\the\Hy@pagecounter}%
7281           \fi
7282         \fi
7283         \immediate\write\@auxout{%
7284           \string\newlabel
7285           {LastPage}{\the\Hy@temp}{\thepage}{\thepage}%

```

```

7286         \ifHy@pageanchor page.\Hy@temp\fi}{}}%
7287     }%
7288     \endgroup
7289     \fi
7290     \addtocounter{page}{1}%
7291 }%
7292 \@ifclassloaded{revtex4}{%
7293     \begingroup
7294     \toks@{\expandafter{\lastpage@putlabel}}%
7295     \edef\x{\endgroup
7296         \def\noexpand\lastpage@putlabel{%
7297             \noexpand\stepcounter{page}%
7298             \the\toks@
7299             \noexpand\addtocounter{page}\noexpand\m@ne
7300         }%
7301     }%
7302     \x
7303 }{}%
7304 }{}%
7305 }
7306 \</package>
7307 \< *check>
7308 \checkpackage{lastpage}[1994/06/25]
7309 \checkcommand\def\lastpage@putlabel{%
7310     \addtocounter{page}{-1}%
7311     \immediate\write\@auxout{%
7312         \string\newlabel{LastPage}{{}\{\thepage}}}%
7313 }%
7314 \addtocounter{page}{1}%
7315 }
7316 \</check>
7317 \< *package>

```

## 31 Package ifthen support

Since version 6.75a this is done in package nameref.

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

```

7318 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}}
7319 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

## 32 Package titlesec and titletoc support

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

Package titlesec support:

```

7320 \@ifpackageloaded{titlesec}{%
7321     \def\ttl@Hy@steplink#1{%
7322         \Hy@MakeCurrentHrefAuto{#1*}%
7323         \edef\ttl@Hy@saveanchor{%
7324             \noexpand\Hy@raisedlink{%
7325                 \noexpand\hyper@anchorstart{\@currentHref}%
7326                 \noexpand\hyper@anchorend
7327                 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7328                 \noexpand\ttl@Hy@PatchSaveWrite
7329             }%

```



```

7330 }%
7331 }%
7332 \def\ttl@Hy@PatchSaveWrite{%
7333 \begingroup
7334 \toks@\expandafter{\ttl@savewrite}%
7335 \edef\x{\endgroup
7336 \def\noexpand\ttl@savewrite{%
7337 \let\noexpand\@currentHref
7338 \noexpand\ttl@Hy@SavedCurrentHref
7339 \the\toks@
7340 }%
7341 }%
7342 \x
7343 }%
7344 \def\ttl@Hy@refstepcounter#1{%
7345 \let\ttl@b\Hy@raisedlink
7346 \def\Hy@raisedlink##1{%
7347 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7348 }%
7349 \refstepcounter{#1}%
7350 \let\Hy@raisedlink\ttl@b
7351 }%
7352 }{}

Package titletoc support:
7353 \@ifpackageloaded{titletoc}{%
7354 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
7355 }{}

```

### 33 Package varioref support

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

```

7356 \def\Hy@varioref@undefined{???}{??}{-}{-}{-}
7357 \@ifpackageloaded{varioref}{%
7358 \def\vref@pagenum#1#2{%
7359 \@ifundefined{r@#2}{%
7360 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7361 }{}%
7362 \edef#1{\getpagerefnumber{#2}}%
7363 }%
7364 }{}

```

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

```

7365 \def\Hy@varioref@refstepcounter#1{%
7366 \stepcounter{#1}%
7367 \protected@edef\@currentlabel{%
7368 \csname p@#1\expandafter\endcsname\csname the#1\endcsname
7369 }%
7370 }
7371 \AtBeginDocument{%
7372 \ifx\refstepcounter\Hy@varioref@refstepcounter
7373 \let\H@refstepcounter\refstepcounter
7374 \let\refstepcounter\Hy@saved@refstepcounter
7375 \fi
7376 }

```

## 34 Package longtable support

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

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

```

7377 \ifpackageloaded{longtable}{%
7378   \begingroup
7379   \def\y{\LT@array}%
7380   \@ifundefined{scr@LT@array}{%
7381     \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}{%
7382     }\def\y{\scr@LT@array}}%
7383   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7384     \expandafter\endgroup
7385     \expandafter\def\y[##1]##2{%
7386       \H@refstepcounter{#1}%
7387       \hyper@makecurrent{table}%
7388       \let\Hy@LT@currentHref\@currentHref
7389       #2\@sharp###4%
7390     }%
7391   }%
7392   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

7393 \begingroup
7394 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7395   \endgroup
7396   \def\LT@start{%
7397     #1%
7398     \ifvoid\LT@foot#2\fi
7399     \let\@currentHref\Hy@LT@currentHref
7400     \Hy@raisedlink{%
7401       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7402     }%
7403     #3%
7404   }%
7405 }%
7406 \expandafter\x\LT@start\@nil
7407 }{}

```

## 35 Equations

We want to make the whole equation a target anchor. Overload `equation`, temporarily reverting to original `\refstepcounter`. If, however, it is in AMS math, we do not do anything, as the tag mechanism is used there (see section 42). The exception is that we move the equation incrementation inside the `math` environment to avoid specials outside and a wrong vertical spacing of equation environments.

```

7408 \let\new@refstepcounter\refstepcounter
7409 \let\H@equation\equation
7410 \let\H@endequation\endequation
7411 \ifpackageloaded{amsmath}{%
7412   \long\def\Hy@temp{%
7413     \incr@eqnum
7414     \mathdisplay@push

```

```

7415 \st@rredfalse \global\@eqnswtrue
7416 \mathdisplay{equation}%
7417 }%
7418 \ifx\Hy@temp\equation
7419 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7420 \csname iftrue\endcsname
7421 \else
7422 \long\def\equation{%
7423 \mathdisplay@push
7424 \st@rredfalse \global\@eqnswtrue
7425 \mathdisplay{equation}%
7426 \incr@eqnum
7427 }%
7428 \fi
7429 \fi
7430 }{%
7431 \def\equation{%
7432 \let\refstepcounter\H@refstepcounter
7433 \H@equation
7434 \@ifundefined{theHequation}{%
7435 \make@stripped@name{\theequation}%
7436 \let\theHequation\newname
7437 }{}%
7438 \hyper@makecurrent{equation}%

```

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

```

7439 \mathopen{%
7440 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7441 }%
7442 \let\refstepcounter\new@refstepcounter
7443 }%
7444 \def\endequation{%
7445 \ifx\Hy@raisedlink\ltx@empty
7446 \hyper@anchorend
7447 \else
7448 \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7449 \fi
7450 \H@endequation
7451 }%
7452 }

```

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.

```

7453 \newif\if@eqnstar
7454 \@eqnstarfalse
7455 \let\H@eqnarray\eqnarray
7456 \let\H@endeqnarray\endeqnarray
7457 \def\eqnarray{%
7458 \let\Hy@reserved@a\relax
7459 \def\@currentHref{}%
7460 \H@eqnarray
7461 \if@eqnstar
7462 \else
7463 \ifx\\\@currentHref\\%
7464 \else

```

```

7465 \ifundefined{theHequation}{%
7466 \make@stripped@name{\theequation}%
7467 \let\theHequation\newname
7468 }{}%
7469 \hyper@makecurrent{equation}%
7470 \mathopen{%
7471 \Hy@raisedlink{%
7472 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7473 }%
7474 }%
7475 \fi
7476 \fi
7477 }
7478 \def\endeqnarray{%
7479 \H@endeqnarray
7480 }

```

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.

```

7481 \@namedef{eqnarray*}{%
7482 \def\@eqnocr{\nonumber\@seqnocr}\@eqnstartrue\eqnarray
7483 }
7484 \@namedef{endeqnarray*}{%
7485 \nonumber\endeqnarray\@eqnstarfalse
7486 }

```

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

```

7487 \ltx@ifundefined{subeqnarray}{}{%
7488 \let\H@subeqnarray\subeqnarray
7489 \let\H@endsubeqnarray\endsubeqnarray
7490 \def\subeqnarray{%
7491 \let\Hy@reserved@a\relax
7492 \H@subeqnarray
7493 \@ifundefined{theHequation}{%
7494 \make@stripped@name{\theequation}%
7495 \let\theHequation\newname
7496 }{}%
7497 \hyper@makecurrent{equation}%
7498 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
7499 }%
7500 \def\endsubeqnarray{%
7501 \H@endsubeqnarray
7502 }%
7503 \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7504 }

```

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

```

7505 \def\make@stripped@name#1{%
7506 \begingroup
7507 \escapechar\m@ne
7508 \global\let\newname\@empty
7509 \protected@edef\Hy@tempa{#1}%
7510 \edef\@tempb{%
7511 \noexpand\@tfor\noexpand\Hy@tempa:=%
7512 \expandafter\strip@prefix\meaning\Hy@tempa

```

```

7513 }%
7514 \@tempb\do{%
7515   \if{\Hy@tempa\else
7516     \if{\Hy@tempa\else
7517       \xdef\newname{\newname\Hy@tempa}%
7518     \fi
7519   \fi
7520 }%
7521 \endgroup
7522 }

```

Support for amsmath's subequations:

```

7523 \begingroup\expandafter\expandafter\expandafter\endgroup
7524 \expandafter\ifx\csname subequations\endcsname\relax
7525 \else
7526   \let\HyOrg@subequations\subequations
7527   \def\subequations{%
7528     \stepcounter{equation}%
7529     \protected@edef\theHparentequation{%
7530       \ifundefined{theHequation}\theequation\theHequation
7531     }%
7532     \addtocounter{equation}{-1}%
7533     \HyOrg@subequations
7534     \def\theHequation{\theHparentequation\alph{equation}}%
7535     \ignorespaces
7536   }%
7537 \fi

```

Support for package `amsthm` (Daniel Müllner):

```

7538 \@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

7539 \def\Hy@temp#1#2#3{%
7540   \ifhmode\unskip\unskip\par\fi
7541   \normalfont
7542   \trivlist
7543   \let\thmheadnl\relax
7544   \let\thm@swap\@gobble
7545   \let\thm@indent\indent % indent
7546   \thm@headfont{\scshape}% heading font small caps
7547   \thm@notefont{\fontseries\mddefault\upshape}%
7548   \thm@headpunct{.}% add period after heading
7549   \thm@headsep 5\p@ plus\p@ minus\p@\relax
7550   \thm@space@setup
7551   #1% style overrides
7552   \@topsep \thm@preskip % used by thm head
7553   \@topsepadd \thm@postskip % used by \@endparenv
7554   \def\@tempa{#2}\ifx\@empty\@tempa
7555     \def\@tempa{\@oparg{\@begintheorem{#3}{}}{}}%
7556   \else
7557     \refstepcounter{#2}%
7558     \def\@tempa{%
7559       \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}%
7560   }%
7561 \fi

```

```

7562 \@tempa
7563 }%
7564 \ifx\Hy@temp\@thm
7565 \def\@thm#1#2#3{%
7566 \ifhmode
7567 \unskip\unskip\par
7568 \fi
7569 \normalfont
7570 \trivlist
7571 \let\thmheadnl\relax
7572 \let\thm@swap\@gobble
7573 \let\thm@indent\indent % indent
7574 \thm@headfont{\scshape}% heading font small caps
7575 \thm@notefont{\fontseries\mddefault\upshape}%
7576 \thm@headpunct{.}% add period after heading
7577 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7578 \thm@space@setup
7579 #1% style overrides
7580 \@topsep \thm@preskip % used by thm head
7581 \@topsepadd \thm@postskip % used by \@endparenv
7582 \def\dth@counter{#2}%
7583 \ifx\@empty\dth@counter
7584 \def\@tempa{%
7585 \@oparg{\@begintheorem{#3}{}}{}%
7586 }%
7587 \else
7588 \H@refstepcounter{#2}%
7589 \hyper@makecurrent{#2}%
7590 \let\Hy@dth@currentHref\@currentHref
7591 \def\@tempa{%
7592 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7593 }%
7594 \fi
7595 \@tempa
7596 }%
7597 \else
7598 \def\@thm#1#2#3{%
7599 \ifhmode
7600 \unskip\unskip\par
7601 \fi
7602 \normalfont
7603 \trivlist
7604 \let\thmheadnl\relax
7605 \let\thm@swap\@gobble
7606 \thm@notefont{\fontseries\mddefault\upshape}%
7607 \thm@headpunct{.}% add period after heading
7608 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7609 \thm@space@setup
7610 #1% style overrides
7611 \@topsep \thm@preskip % used by thm head
7612 \@topsepadd \thm@postskip % used by \@endparenv
7613 \def\dth@counter{#2}%
7614 \ifx\@empty\dth@counter
7615 \def\@tempa{%
7616 \@oparg{\@begintheorem{#3}{}}{}%
7617 }%
7618 \else

```

```

7619 \H@refstepcounter{#2}%
7620 \hyper@makecurrent{#2}%
7621 \let\Hy@dth@currentHref\@currentHref
7622 \def\@tempa{%
7623   \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7624 }%
7625 \fi
7626 \@tempa
7627 }%
7628 \fi
7629 \dth@everypar={%
7630   \@minipagefalse
7631   \global\@newlistfalse
7632   \@noparitemfalse
7633   \if@inlabel
7634     \global\@inlabelfalse
7635     \begingroup
7636     \setbox\z@\lastbox
7637     \ifvoid\z@
7638       \kern-\itemindent
7639     \fi
7640     \endgroup
7641     \ifx\@empty\dth@counter
7642     \else
7643       \Hy@raisedlink{%
7644         \hyper@anchorstart{%
7645           \ltx@ifundefined{Hy@dth@currentHref}%
7646             \@currentHref\Hy@dth@currentHref
7647         }\hyper@anchorend
7648       }%
7649     \fi
7650     \unhbox\@labels
7651   \fi
7652   \if@nobreak
7653     \@nobreakfalse \clubpenalty\@M
7654   \else
7655     \clubpenalty\@clubpenalty \everypar{}%
7656   \fi
7657 }%
7658 }{}

```

## 36 Footnotes

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

```

7659 \ifHy@hyperfootnotes
7660 \newcounter{Hfootnote}%
7661 \let\H@@footnotetext\@footnotetext
7662 \let\H@@footnotemark\@footnotemark
7663 \def\@xfootnotenext[#1]{%
7664   \begingroup
7665     \csname c@\@mpfn\endcsname #1\relax
7666   \unrestored@protected@xdef\@thefnmark{\thempfn}%

```

```

7667 \endgroup
7668 \ifx\@footnotetext\@mpfootnotetext
7669 \expandafter\H@@mpfootnotetext
7670 \else
7671 \expandafter\H@@footnotetext
7672 \fi
7673 }%
7674 \def\@xfootnotemark[#1]{%
7675 \begingroup
7676 \c@footnote #1\relax
7677 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7678 \endgroup
7679 \H@@footnotemark
7680 }%
7681 \let\H@@mpfootnotetext\@mpfootnotetext
7682 \long\def\@mpfootnotetext#1{%
7683 \H@@mpfootnotetext{%
7684 \ifHy@nesting
7685 \expandafter\ltx@firstoftwo
7686 \else
7687 \expandafter\ltx@secondoftwo
7688 \fi
7689 {%
7690 \expandafter\hyper@@anchor\expandafter{%
7691 \Hy@footnote@currentHref
7692 }{#1}%
7693 }{%
7694 \Hy@raisedlink{%
7695 \expandafter\hyper@@anchor\expandafter{%
7696 \Hy@footnote@currentHref
7697 }{\relax}%
7698 }#1%
7699 }%
7700 }%
7701 }%
7702 \long\def\@footnotetext#1{%
7703 \H@@footnotetext{%
7704 \ifHy@nesting
7705 \expandafter\ltx@firstoftwo
7706 \else
7707 \expandafter\ltx@secondoftwo
7708 \fi
7709 {%
7710 \expandafter\hyper@@anchor\expandafter{%
7711 \Hy@footnote@currentHref
7712 }{#1}%
7713 }{%
7714 \Hy@raisedlink{%
7715 \expandafter\hyper@@anchor\expandafter{%
7716 \Hy@footnote@currentHref
7717 }{\relax}%
7718 }%
7719 \let\@currentHref\Hy@footnote@currentHref
7720 \let\@currentlabelname\@empty
7721 #1%
7722 }%
7723 }%

```



```
7724 }%
```

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.

```
7725 \def\@footnotemark{%
7726   \leavevmode
7727   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
7728   \stepcounter{Hfootnote}%
7729   \global\let\Hy@saved@currentHref\@currentHref
7730   \hyper@makecurrent{Hfootnote}%
7731   \global\let\Hy@footnote@currentHref\@currentHref
7732   \global\let\@currentHref\Hy@saved@currentHref
7733   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7734   \@makefnmark
7735   \hyper@linkend
7736   \ifhmode\spacefactor\x@sf\fi
7737   \relax
7738 }%
```

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

```
7739 \@ifpackageloaded{tabularx}{%
7740   \let\HyOrg@TX@endtabularx\TX@endtabularx
7741   \def\Hy@tabularx@hook{%
7742     \let\@footnotetext\H@footnotetext
7743     \let\@footnotemark\H@footnotemark
7744     \let\@mpfootnotetext\H@mpfootnotetext
7745   }%
7746   \begingroup
7747     \toks@\expandafter{\TX@endtabularx}%
7748     \xdef\Hy@gtemp{%
7749       \noexpand\Hy@tabularx@hook
7750       \the\toks@
7751     }%
7752   \endgroup
7753   \let\TX@endtabularx\Hy@gtemp
7754 }{ }%
```

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

```
7755 \@ifpackageloaded{longtable}{%
7756   \CheckCommand*{\LT@p@ftntext}[1]{%
7757     \edef\@tempa{%
7758       \the\LT@p@ftn
7759       \noexpand\footnotetext[\the\c@footnote]%
7760     }%
7761     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7762   }%
7763   \long\def\LT@p@ftntext#1{%
7764     \edef\@tempa{%
7765       \the\LT@p@ftn
7766       \begingroup
7767       \noexpand\c@footnote=\the\c@footnote\relax
```

```

7768 \noexpand\protected@xdef\noexpand\@thefnmark{%
7769 \noexpand\thempfn
7770 }%
7771 \noexpand\Hy@LT@footnotetext{%
7772 \Hy@footnote@currentHref
7773 }%
7774 }%
7775 \global\LT@p@ftn\expandafter{%
7776 \@tempa{#1}%
7777 \endgroup
7778 }%
7779 }%
7780 \long\def\Hy@LT@footnotetext#1#2{%
7781 \H@@@footnotetext{%
7782 \ifHy@nesting
7783 \hyper@@anchor{#1}{#2}%
7784 \else
7785 \Hy@raisedlink{%
7786 \hyper@@anchor{#1}{\relax}%
7787 }%
7788 \def\@currentHref{#1}%
7789 \let\@currentlabelname\@empty
7790 #2%
7791 \fi
7792 }%
7793 }%
7794 }{}%

```

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

```

7795 \@ifpackageloaded{fancyvrb}{%
7796 \def\V@@@footnotetext{%
7797 \insert\footins\bgroup
7798 \csname reset@font\endcsname
7799 \footnotesize
7800 \interlinepenalty\interfootnotelinepenalty
7801 \splittopskip\footnotesep
7802 \splitmaxdepth\dp\strutbox
7803 \floatingpenalty \@MM
7804 \hsize\columnwidth
7805 \@parboxrestore
7806 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7807 \@makefnmark}%
7808 \rule{\z@}{\footnotesep}%
7809 \bgroup
7810 \aftergroup\V@@@footnotetext
7811 \Hy@raisedlink{%
7812 \expandafter\hyper@@anchor\expandafter{%
7813 \Hy@footnote@currentHref
7814 }{\relax}%
7815 }%
7816 \let\@currentHref\Hy@footnote@currentHref
7817 \let\@currentlabelname\@empty
7818 \ignorespaces
7819 }%
7820 }{}%

```

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

```

7821 \def\Hy@temp#1{%
7822   \begingroup
7823   \unrestored@protected@xdef\@thefnmark{\ref{#1}}}%
7824   \endgroup
7825   \@footnotemark
7826 }%
7827 \ifx\Hy@temp\footref
7828   \def\footref#1{%
7829     \begingroup
7830     \unrestored@protected@xdef\@thefnmark{\ref{#1}}}%
7831     \endgroup
7832     \H@@@footnotemark
7833   }%
7834 \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.

```

7835 \let\HyOrg@maketitle\maketitle
7836 \def\maketitle{%
7837   \let\Hy@saved@footnotemark\@footnotemark
7838   \let\Hy@saved@footnotetext\@footnotetext
7839   \let\@footnotemark\H@@@footnotemark
7840   \let\@footnotetext\H@@@footnotetext
7841   \@ifnextchar[\Hy@maketitle@optarg{% ]
7842     \HyOrg@maketitle
7843     \Hy@maketitle@end
7844   }%
7845 }%
7846 \def\Hy@maketitle@optarg[#1]{%
7847   \HyOrg@maketitle[{#1}]%
7848   \Hy@maketitle@end
7849 }%
7850 \def\Hy@maketitle@end{%
7851   \ifx\@footnotemark\H@@@footnotemark
7852     \let\@footnotemark\Hy@saved@footnotemark
7853   \fi
7854   \ifx\@footnotetext\H@@@footnotetext
7855     \let\@footnotetext\Hy@saved@footnotetext
7856   \fi
7857 }%

```

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

```

7858 \def\realfootnote{%
7859   \@ifnextchar[\@xfootnote{%
7860     \stepcounter{\@mpfn}%
7861     \protected@xdef\@thefnmark{\thempfn}%
7862     \H@@@footnotemark\H@@@footnotetext
7863   }%
7864 }%

7865 \fi
7866 \Hy@DisableOption{hyperfootnotes}

7867 \</package>
7868 \< *check>
7869 \checklatex
7870 \checkcommand\def\@xfootnotenext[#1]{%

```

```

7871 \begingroup
7872 \csname c@\@mpfn\endcsname #1\relax
7873 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7874 \endgroup
7875 \@footnotetext
7876 }
7877 \checkcommand\def\@xfootnotemark[#1]{%
7878 \begingroup
7879 \c@footnote #1\relax
7880 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7881 \endgroup
7882 \@footnotemark
7883 }
7884 \checkcommand\def\@footnotemark{%
7885 \leavevmode
7886 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7887 \@makefnmark
7888 \ifhmode\spacefactor\@x@sf\fi
7889 \relax
7890 }
7891 </check>
7892 <*package>

```

## 37 Float captions

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

```

7893 \def\caption{%
7894 \ifx\@capytype\@undefined
7895 \latex@error{\noexpand\caption outside float}\@ehd
7896 \expandafter\@gobble
7897 \else
7898 \H@refstepcounter\@capytype
7899 \let\Hy@tempa\@caption
7900 \@ifundefined{float@caption}{%
7901 }{%
7902 \expandafter\ifx\csname @float@c@\@capytype\endcsname
7903 \float@caption
7904 \let\Hy@tempa\Hy@float@caption
7905 \fi
7906 }%
7907 \expandafter\@firstofone
7908 \fi
7909 {\@dblarg{\Hy@tempa\@capytype}}%
7910 }
7911 \long\def\@caption#1[#2]#3{%
7912 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7913 \csname iftrue\endcsname
7914 \global\let\@currentHref\hc@currentHref
7915 \else
7916 \hyper@makecurrent{\@capytype}%
7917 \fi
7918 \ifundefined{NR@getttitle}{%
7919 \def\@currentlabelname{#2}%
7920 }{%
7921 \NR@getttitle{#2}%

```

```

7922 }%
7923 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7924 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7925 }%
7926 \begingroup
7927 \@@parboxrestore
7928 \if@minipage
7929 \@@setminipage
7930 \fi
7931 \normalsize
7932 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7933 \csname iftrue\endcsname
7934 \global\@capstartfalse
7935 \@@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7936 \else
7937 \@@makecaption{\csname fnum@#1\endcsname}{%
7938 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7939 \ifHy@nesting
7940 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7941 \else
7942 \Hy@raisedlink{%
7943 \expandafter\hyper@@anchor\expandafter{%
7944 \@currentHref
7945 }{\relax}%
7946 }%
7947 #3%
7948 \fi
7949 }%
7950 \fi
7951 \par
7952 \endgroup
7953 }

```

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’.

```

7954 \let\Hy@float@caption\@caption
7955 \newcommand{\HyNew@float@makebox}[1]{%
7956 \HyOrg@float@makebox{%
7957 #1\relax
7958 \ifx\Hy@float@currentHref\@undefined
7959 \else
7960 \expandafter\hyper@@anchor\expandafter{%
7961 \Hy@float@currentHref
7962 }{\relax}%
7963 \global\let\Hy@float@currentHref\@undefined
7964 \fi
7965 }%
7966 }%
7967 \ifpackageloaded{float}{%
7968 \def\Hy@float@caption{%
7969 \ifx\Hy@float@currentHref\@undefined
7970 \hyper@makecurrent{\@cuptype}%
7971 \global\let\Hy@float@currentHref\@currentHref

```

```

7972 \else
7973 \let\@currentHref\Hy@float@currentHref
7974 \fi
7975 \float@caption
7976 }%
7977 \let\HyOrg@float@makebox\float@makebox
7978 \let\float@makebox\HyNew@float@makebox
7979 }{}

7980 \</package>
7981 \< *check>
7982 \checklatex[1999/06/01 - 2000/06/01]
7983 \checkcommand\def\caption{%
7984 \ifx\@capttype\@undefined
7985 \@latex@error{\noexpand\caption outside float}\@ehd
7986 \expandafter\@gobble
7987 \else
7988 \refstepcounter\@capttype
7989 \expandafter\@firstofone
7990 \fi
7991 {\@dblarg{\@caption\@capttype}}}%
7992 }
7993 \checkcommand\long\def\@caption#1[#2]#3{%
7994 \par
7995 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7996 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7997 }%
7998 \begingroup
7999 \@parboxrestore
8000 \if@minipage
8001 \@setminipage
8002 \fi
8003 \normalsize
8004 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
8005 \endgroup
8006 }
8007 \< /check>
8008 \< *package>

```

## 38 Bibliographic references

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

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

```

8009 \def\hyper@natlinkstart#1{%
8010 \Hy@backout{#1}%
8011 \hyper@linkstart{cite}{cite.#1}%
8012 \def\hyper@nat@current{#1}%
8013 }
8014 \def\hyper@natlinkend{%
8015 \hyper@linkend

```

```

8016 }
8017 \def\hyper@natlinkbreak#1#2{%
8018   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
8019 }
8020 \def\hyper@natanchorstart#1{%
8021   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
8022 }
8023 \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.

```

8024 \ltx@ifundefined{NAT@parse}{%
8025   \providecommand*\@extra@binfo{}%
8026   \providecommand*\@extra@b@citeb{}%
8027   \def\bibcite#1#2{%
8028     \@newl@bel{b}{#1\@extra@binfo}{%
8029       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
8030     }%
8031   }%
8032   \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.”.

```

8033 \let\Hy@bibcite\bibcite
8034 \begingroup
8035   \@ifundefined{bbl@cite@choice}{}{%
8036     \g@addto@macro\bbl@cite@choice{%
8037       \let\bibcite\Hy@bibcite
8038     }%
8039   }%
8040 \endgroup

```

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

```

8041 \providecommand*\@BIBLABEL{\@biblabel}%
8042 \def\@bibitem[#1]#2{%
8043   \@skiphyperreftrue
8044   \H@item[%
8045     \ifx\Hy@raisedlink\@empty
8046       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
8047       \@BIBLABEL{#1}%
8048       \hyper@anchorend
8049     \else
8050       \Hy@raisedlink{%
8051         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
8052       }%
8053     \@BIBLABEL{#1}%
8054     \fi
8055     \hfill
8056   ]%
8057   \@skiphyperreffalse
8058   \if@filesw
8059     \begingroup
8060       \let\protect\noexpand
8061       \immediate\write\@auxout{%
8062         \string\bibcite{#2}{#1}%
8063       }%

```

```

8064 \endgroup
8065 \fi
8066 \ignorespaces
8067 }%

```

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

```

8068 \def\@bibitem#1{%
8069 \@skiphyperreftrue\H@item\@skiphyperreffalse
8070 \Hy@raisedlink{%
8071 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
8072 }%
8073 \if@filesw
8074 \begingroup
8075 \let\protect\noexpand
8076 \immediate\write\@auxout{%
8077 \string\bibcite{#1}{\the\value{\@listctr}}}%
8078 }%
8079 \endgroup
8080 \fi
8081 \ignorespaces
8082 }%
8083 }{}

8084 \</package>
8085 \< *check>
8086 \checklatex
8087 \checkcommand\def\@lbibitem[#1]#2{%
8088 \item[\@biblabel{#1}]{\hfill}%
8089 \if@filesw
8090 {%
8091 \let\protect\noexpand
8092 \immediate\write\@auxout{%
8093 \string\bibcite{#2}{#1}%
8094 }%
8095 }%
8096 \fi
8097 \ignorespaces
8098 }
8099 \checkcommand\def\@bibitem#1{%
8100 \item
8101 \if@filesw
8102 \immediate\write\@auxout{%
8103 \string\bibcite{#1}{\the\value{\@listctr}}}%
8104 }%
8105 \fi
8106 \ignorespaces
8107 }
8108 \</check>
8109 \< *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.

```

8110 \ifclassloaded{revtex}{%
8111 \Hy@Info{*** compatibility with revtex **** }%
8112 \def\revtex@checking#1#2{%
8113 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname

```



```

8114 \expandafter\def\csname b@#1\endcsname{#2}%
8115 \SetMaxRnhelLabel{#1}%
8116 \expandafter\let\csname b@#1\endcsname\T@temp
8117 }%

```

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

```

8118 \ifundefined{@CITE}{\def\CITE{\@cite}}}%
8119 \providecommand*\@extra@b@citeb{}%
8120 \def\CITEX[#1]#2{%
8121 \let\@citea\@empty
8122 \leavevmode
8123 \unskip
8124 $~{%
8125 \scriptstyle
8126 \@CITE{%
8127 \@for\@citeb:=#2\do{%
8128 \@citea
8129 \def\@citea{,\penalty\@m\ }%
8130 \edef\@citeb{\expandafter\@firstofone\@citeb}%
8131 \if@filesw
8132 \immediate\write\@auxout{\string\citation{\@citeb}}%
8133 \fi
8134 \ifundefined{b@\@citeb\extra@b@citeb}{%
8135 \mbox{\reset@font\bfseries ?}%
8136 \G@refundefinedtrue
8137 \@latex@warning{%
8138 Citation '\@citeb' on page \thepage \space undefined%
8139 }%
8140 }%
8141 {\csname b@\@citeb\@extra@b@citeb\endcsname}%
8142 }%
8143 }%
8144 }{#1}%
8145 }$%
8146 }%

```

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.

```

8147 \def\citex[#1]#2{%
8148 \let\@citea\@empty
8149 \@cite{%
8150 \@for\@citeb:=#2\do{%
8151 \@citea
8152 \def\@citea{,\penalty\@m\ }%
8153 \edef\@citeb{\expandafter\@firstofone\@citeb}%
8154 \if@filesw
8155 \immediate\write\@auxout{\string\citation{\@citeb}}%
8156 \fi
8157 \ifundefined{b@\@citeb\extra@b@citeb}{%
8158 \mbox{\reset@font\bfseries ?}%
8159 \G@refundefinedtrue
8160 \@latex@warning{%
8161 Citation '\@citeb' on page \thepage \space undefined%
8162 }%
8163 }%
8164 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
8165 }%

```

```

8166 }%
8167 }{#1}%
8168 }%
8169 }{}

```

## 38.1 Package harvard

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

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

```

8170 \@ifpackageloaded{harvard}{%
8171   \Hy@AtBeginDocument{%
8172     \Hy@Info{*** compatibility with harvard **** }%
8173     \Hy@raiselinksfalse
8174     \def\harvardcite#1#2#3#4{%
8175       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{#1}{#2}}%
8176       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{#1}{#3}}%
8177       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{#1}{#4}}%
8178       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
8179     }%
8180     \def\HAR@citetoaux#1{%
8181       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
8182       \ifHy@backref
8183         \ifx\@empty\@currentlabel
8184           \else
8185             \@bsphack
8186             \if@filesw
8187               \protected@write\@auxout{}{%
8188                 \string\@writefile{brf}{%
8189                   \string\backcite{#1}{%
8190                     {thepage}{\@currentlabel}{\@currentHref}%
8191                   }%
8192                 }%
8193               }%
8194             \fi
8195             \@esphack
8196           \fi
8197         \fi
8198       }%
8199     \def\harvarditem{%
8200       \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
8201     }%
8202     \def\@harvarditem[#1]#2#3#4#5\par{%
8203       \item[]%
8204       \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
8205       \if@filesw
8206         \begingroup
8207         \def\protect##1{\string ##1\space}%
8208         \ifthenelse{\equal{#1}{\null}}{%
8209           {\def\next{{#4}{#2}{#3}}}%
8210           {\def\next{{#4}{#2}{#1}{#3}}}%
8211         \immediate\write\@auxout{\string\harvardcite\codeof\next}%

```

```

8212 \endgroup
8213 \fi
8214 \protect\hspace*{-\labelwidth}%
8215 \protect\hspace*{-\labelsep}%
8216 \ignorespaces
8217 #5%
8218 \ifHy@backref
8219 \newblock
8220 \backref{\csname br@#4\endcsname}%
8221 \fi
8222 \par
8223 }%

```

\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:

```

8224 \long\def\HAR@checkcitations#1#2#3#4{%
8225 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
8226 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
8227 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
8228 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
8229 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
8230 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
8231 \else
8232 \@tempswatrue
8233 \fi
8234 \else
8235 \@tempswatrue
8236 \fi
8237 \else
8238 \@tempswatrue
8239 \fi
8240 }%
8241 }%
8242 }{}

```

## 38.2 Package chicago

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

```

8243 \@ifpackageloaded{chicago}{%

```

\citeN

```

8244 \def\citeN{%
8245 \def\@citesep{~1000}%
8246 \def\@cite##1##2{##1}%
8247 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
8248 \@citedata@opt
8249 }%

```

\shortciteN

```

8250 \def\shortciteN{%
8251 \def\@citesep{~1000}%
8252 \def\@cite##1##2{##1}%
8253 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
8254 \@citedata@opt
8255 }%

```

\@citedata@opt

```
8256 \def\@citedata@opt{%
8257   \let\@cite@opt\@empty
8258   \@ifnextchar [{%
8259     \@tempswatrue
8260     \@citedatax@opt
8261   }{%
8262     \@tempswafalse
8263     \@citedatax[]%
8264   }%
8265 }%
```

\@citedatax@opt

```
8266 \def\@citedatax@opt[#1]{%
8267   \def\@cite@opt{, #1}%
8268   \@citedatax[{#1}]%
8269 }%

8270 }{}
```

## 39 Page numbers

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

This where we supply a destination for each page.

```
8271 \ltx@ifclassloaded{slides}{%
8272   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
8273   \def\Hy@PageAnchorSlidesPlain{%
8274     \advance\c@page\ltx@one
8275     \edef\Hy@TempPageAnchor{%
8276       \noexpand\hyper@@anchor{%
8277         page.\the\c@slide.\the\c@overlay.\the\c@note%
8278         \ifnum\c@page=\ltx@one
8279           \else
8280             .\the\c@page
8281         \fi
8282       }%
8283     }%
8284     \advance\c@page-\ltx@one
8285   }%
8286   \def\Hy@PageAnchorSlide{%
8287     \advance\c@page\ltx@one
8288     \ifnum\c@page>\ltx@one
8289       \ltx@ifundefined{theHpage}{%
8290         \protected@edef\Hy@TheSlideOptionalPage{%
8291           \Hy@SlidesFormatOptionalPage{theHpage}%
8292         }%
8293       }{%
8294         \protected@edef\Hy@TheSlideOptionalPage{%
8295           \Hy@SlidesFormatOptionalPage{theHpage}%
8296         }%
8297       }%
8298     \else
```

```

8299 \def\Hy@TheSlideOptionalPage{}%
8300 \fi
8301 \advance\c@page-\ltx@one
8302 \pdfstringdef\@the@H@page{%
8303 \csname
8304 the%
8305 \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
8306 \Hy@SlidesPage
8307 \endcsname
8308 \Hy@TheSlideOptionalPage
8309 }%
8310 \ltx@gobblethree
8311 }%
8312 \def\Hy@SlidesPage{slide}%
8313 \g@addto@macro\slide{%
8314 \def\Hy@SlidesPage{slide}%
8315 }%
8316 \g@addto@macro\overlay{%
8317 \def\Hy@SlidesPage{overlay}%
8318 }%
8319 \g@addto@macro\note{%
8320 \def\Hy@SlidesPage{note}%
8321 }%
8322 }{%
8323 \def\Hy@PageAnchorSlidesPlain{}%
8324 \def\Hy@PageAnchorSlide{}%
8325 }
8326 \def\Hy@EveryPageAnchor{%
8327 \Hy@DistillerDestFix
8328 \ifHy@pageanchor
8329 \ifHy@hypertexnames
8330 \ifHy@plainpages
8331 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
8332 \Hy@PageAnchorSlidesPlain
8333 \else
8334 \begingroup
8335 \let\@number\@firstofone
8336 \Hy@unicodefalse
8337 \Hy@PageAnchorSlide
8338 \pdfstringdef\@the@H@page{\thepage}%
8339 \endgroup
8340 \EdefUnescapeString\@the@H@page{\@the@H@page}%
8341 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
8342 \fi
8343 \else
8344 \Hy@GlobalStepCount\Hy@pagecounter
8345 \def\Hy@TempPageAnchor{%
8346 \hyper@@anchor{page.\the\Hy@pagecounter}%
8347 }%
8348 \fi
8349 \vbox to 0pt{%
8350 \kern\voffset
8351 \kern\topmargin
8352 \kern-1bp\relax
8353 \hbox to 0pt{%
8354 \kern\hoffset
8355 \kern\ifodd\value{page}%

```

```

8356         \oddsidemargin
8357         \else
8358         \evensidemargin
8359     \fi
8360     \kern-1bp\relax
8361     \Hy@TempPageAnchor\relax
8362     \hss
8363 }%
8364 \vss
8365 }%
8366 \fi
8367 }
8368 \g@addto@macro\Hy@EveryPageBoxHook{%
8369 \Hy@EveryPageAnchor
8370 }

```

## 40 Table of contents

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

```

8371 \def\addcontentsline#1#2#3{% toc extension, type, tag
8372 \begingroup
8373 \let\label\@gobble
8374 \ifx\@currentHref\@empty
8375 \Hy@Warning{%
8376 No destination for bookmark of \string\addcontentsline,%
8377 \MessageBreak destination is added%
8378 }%
8379 \phantomsection
8380 \fi
8381 \expandafter\ifx\csname toplevel@#2\endcsname\relax
8382 \begingroup
8383 \def\Hy@tempa{#1}%
8384 \ifx\Hy@tempa\Hy@bookmarkstype
8385 \Hy@WarningNoLine{%
8386 bookmark level for unknown #2 defaults to 0%
8387 }%
8388 \else
8389 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8390 \fi
8391 \endgroup
8392 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
8393 \fi
8394 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
8395 \Hy@writebookmark{\csname the#2\endcsname}%
8396 {#3}%
8397 {\@currentHref}%
8398 {\Hy@toplevel}%
8399 {#1}%
8400 \ifHy@verbose
8401 \begingroup
8402 \def\Hy@tempa{#3}%
8403 \@onelevel@sanitize\Hy@tempa
8404 \let\temp@online\on@line
8405 \let\on@line\@empty

```

```

8406 \Hy@Info{%
8407   bookmark\temp@online:\MessageBreak
8408   thecounter {\csname the#2\endcsname}\MessageBreak
8409   text {\Hy@tempa}\MessageBreak
8410   reference {\@currentHref}\MessageBreak
8411   toplevel {\Hy@toclevel}\MessageBreak
8412   type {#1}%
8413 }%
8414 \endgroup
8415 \fi
8416 \addtocontents{#1}{%
8417   \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
8418 }%
8419 \endgroup
8420 }

```

`\contentsline` The page number might be empty. In this case the link for the page number is suppressed to avoid little link boxes.

```

8421 \def\contentsline#1#2#3#4{%
8422   \begingroup
8423   \Hy@safe@activetrue
8424   \edef\x{\endgroup
8425     \def\noexpand\Hy@tocdestname{#4}%
8426   }\x
8427   \ifx\Hy@tocdestname\ltx@empty
8428     \csname l@#1\endcsname{#2}{#3}%
8429   \else
8430     \ifcase\Hy@linktoc % none
8431       \csname l@#1\endcsname{#2}{#3}%
8432     \or % section
8433       \csname l@#1\endcsname{%
8434         \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8435       }{#3}%
8436     \or % page
8437       \def\Hy@temp{#3}%
8438       \ifx\Hy@temp\ltx@empty
8439         \csname l@#1\endcsname{#2}{#3}%
8440       \else
8441         \csname l@#1\endcsname{{#2}}{%
8442           \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8443         }%
8444       \fi
8445     \else % all
8446       \def\Hy@temp{#3}%
8447       \ifx\Hy@temp\ltx@empty
8448         \csname l@#1\endcsname{%
8449           \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8450         }{}%
8451       \else
8452         \csname l@#1\endcsname{%
8453           \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8454         }{%
8455           \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8456         }%
8457       \fi
8458     \fi
8459   \fi

```

```

8460 }

8461 </package>
8462 <*check>
8463 \checklatex
8464 \checkcommand\def\addcontentsline#1#2#3{%
8465   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}}%
8466 }
8467 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8468 </check>
8469 <*package>

```

## 41 New counters

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

```

8470 \let\H@definecounter\@definecounter
8471 \def\@definecounter#1{%
8472   \H@definecounter{#1}%
8473   \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8474 }

```

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.

```

8475 \let\H@newctr\@newctr
8476 \def\@newctr#1[#2]{%
8477   \H@newctr#1[#2]}%
8478 \expandafter\gdef\csname theH#1\endcsname{%
8479   \csname the\@ifundefined{theH#2}{-}{H}#2\endcsname.\arabic{#1}%
8480 }%
8481 }

```

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

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

Version 6.77p uses a patch by Ross Moore.

```

8482 \@ifpackageloaded{amsmath}{%
8483   \def\Hy@make@anchor{%
8484     \Hy@MakeCurrentHrefAuto{AMS}%
8485     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8486   }%
8487   \def\Hy@make@df@tag@@#1{%
8488     \gdef\df@tag{%
8489       \maketag@@@{\Hy@make@anchor#1}%
8490     \def\@currentlabel{#1}%
8491   }%
8492   }%
8493   \def\Hy@make@df@tag@@@#1{%
8494     \gdef\df@tag{%
8495       \tagform@{\Hy@make@anchor#1}%
8496       \toks@{\xp{p@equation{#1}}}%

```



```

8497 \edef\@currentlabel{\the\toks@}%
8498 }%
8499 }%
8500 \let\HyOrg@make@df@tag@@\make@df@tag@@
8501 \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8502 \let\make@df@tag@@\Hy@make@df@tag@@
8503 \let\make@df@tag@@@\Hy@make@df@tag@@@
8504 }{}

```

Only play with `\seteqlebal` if we are using pdf<sub>tex</sub>. Other drivers cause problems; requested by Michael Downes (AMS).

```

8505 \@ifpackagewith{hyperref}{pdftex}{%
8506 \let\H@seteqlabel\@seteqlabel
8507 \def\@seteqlabel#1{%
8508 \H@seteqlabel{#1}%
8509 \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8510 \Hy@raisedlink{%
8511 \hyper@anchorstart{\@currentHref}\hyper@anchorend
8512 }%
8513 }%
8514 }{}

```

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

```

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

```

## 42.1 `\@addtoreset` and `\numberwithin` patches

`\@addtoreset` puts a counter to the reset list of another counter. After a reset the counter starts again with perhaps already used values. Therefore the `hyperref` version of the counter print command `\theHcounter` is redefined in order to add the parent counter.

```

8515 \let\HyOrg@addtoreset\@addtoreset
8516 \def\@addtoreset#1#2{%
8517 \HyOrg@addtoreset{#1}{#2}%
8518 \expandafter\xdef\csname theH#1\endcsname{%
8519 \expandafter\noexpand
8520 \csname the\@ifundefined{theH#2}{ }H#2\endcsname
8521 .\noexpand\the\noexpand\value{#1}%
8522 }%
8523 }

```

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

```

8524 \</package>
8525 \*check>
8526 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8527 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8528 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8529 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8530 \@addtoreset{#2}{#3}%
8531 \@xp\xdef\csname the#2\endcsname{%

```

```

8532 \exp\@nx\csname the#3\endcsname.\@nx#1{#2}%
8533 }%
8534 }%
8535 }%
8536 }%
8537 </check>
8538 <*package>
8539 \ifpackageloaded{amsmath}{%
8540 \ifpackagelater{amsmath}{1999/12/14}{%
8541 \renewcommand*{\numberwithin}{3}[\arabic]{%
8542 \ifundefined{c@#2}{\@nocounterr{#2}}{%
8543 \ifundefined{c@#3}{\@nocnterr{#3}}{%
8544 \HyOrg@addtoreset{#2}{#3}%
8545 \exp\xdef\csname the#2\endcsname{%
8546 \exp\@nx\csname the#3\endcsname.\@nx#1{#2}%
8547 }%
8548 \exp\xdef\csname theH#2\endcsname{%
8549 \exp\@nx
8550 \csname the\ifundefined{theH#3}{H#3\endcsname
8551 .\@nx#1{#2}%
8552 }%
8553 }%
8554 }%
8555 }%
8556 }{%
8557 \Hy@WarningNoLine{%
8558 \string\numberwithin\space of package 'amsmath' %
8559 only fixed\MessageBreak
8560 for version 2000/06/06 v2.12 or newer%
8561 }%
8562 }%
8563 }{}

```

## 43 Included figures

Simply intercept the low level graphics package macro.

```

8564 \ifHy@hyperfigures
8565 \let\Hy@Gin@setfile\Gin@setfile
8566 \def\Gin@setfile#1#2#3{%
8567 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8568 }%
8569 \fi
8570 \Hy@DisableOption{hyperfigures}

```

## 44 hyperindex entries

Internal command names are prefixed with \HyInd@.

Hyper-indexing works crudely, by forcing code onto the end of the index entry with the | feature; this puts a hyperlink around the printed page numbers. It will not proceed if the author has already used the | specifier for something like 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.

```

8571 \ifHy@hyperindex
8572 \def\HyInd@ParenLeft{()%
8573 \def\HyInd@ParenRight{)%}
8574 \def\hyperindexformat#1#2{%
8575 \let\HyOrg@hyperpage\hyperpage
8576 \let\hyperpage\@firstofone
8577 #1{\HyOrg@hyperpage{#2}}%
8578 \let\hyperpage\HyOrg@hyperpage
8579 }%
8580 \Hy@nextfalse
8581 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8582 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8583 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8584 \begingroup
8585 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
8586 \lccode'\|/=\|\\relax
8587 \lowercase{\endgroup
8588 \ifHy@next
8589 \let\HyInd@org@wrindex\@wrindex
8590 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
8591 \def\HyInd@@wrindex#1#2|#3|#4\{\%
8592 \ifx\|#3\%
8593 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8594 \else
8595 \HyInd@@@wrindex{#1}{#2}#3\%
8596 \fi
8597 }%
8598 \def\HyInd@@@wrindex#1#2#3#4\{\%
8599 \def\Hy@temp@A{#3}%
8600 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8601 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8602 \relax
8603 \HyInd@org@wrindex{#1}{%
8604 #2|hyperindexformat{/#3#4}%
8605 }%
8606 \else
8607 \ifx\|#4\%
8608 \ifx\Hy@temp@A\HyInd@ParenRight
8609 \HyInd@org@wrindex{#1}{#2|#3}%
8610 \else
8611 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8612 \fi
8613 \else
8614 \HyInd@org@wrindex{#1}{%
8615 #2|#3hyperindexformat{/#4}%
8616 }%
8617 \fi
8618 \fi
8619 }%
8620 \else
8621 \def\@wrindex#1{\@wrindex#1||\}%
8622 \def\@wrindex#1|#2|#3\{\%
8623 \if@filesw
8624 \ifx\|#2\%
8625 \protected@write\@indexfile{}{%

```

```

8626         \string\indexentry{#1|hyperpage}{\thepage}%
8627     }%
8628     \else
8629         \HyInd@@@wrindex{#1}#2\\%
8630     \fi
8631 \fi
8632 \endgroup
8633 \@esphack
8634 }%
8635 \def\HyInd@@@wrindex#1#2#3\\{%
8636     \def\Hy@temp@A{#2}%
8637     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8638         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8639     \relax
8640     \protected@write\@indexfile{}{%
8641         \string\indexentry{%
8642             #1|hyperindexformat{/#2#3}%
8643         }{\thepage}%
8644     }%
8645     \else
8646         \ifx\\#3\\%
8647             \ifx\Hy@temp@A\HyInd@ParenRight
8648                 \protected@write\@indexfile{}{%
8649                     \string\indexentry{#1|#2}{\thepage}%
8650                 }%
8651             \else
8652                 \protected@write\@indexfile{}{%
8653                     \string\indexentry{#1|#2hyperpage}{\thepage}%
8654                 }%
8655             \fi
8656         \else
8657             \protected@write\@indexfile{}{%
8658                 \string\indexentry{%
8659                     #1|#2hyperindexformat{/#3}%
8660                 }{\thepage}%
8661             }%
8662         \fi
8663     \fi
8664 }%
8665 \fi
8666 }%
8667 \fi
8668 \Hy@DisableOption{hyperindex}
8669 \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.

```
8670 \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.

```

8671 \def\hyperpage#1{%
8672     \HyInd@hyperpage#1\nohyperpage{}\@nil
8673 }
8674 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8675     \HyInd@@@hyperpage{#1}%
8676     #2%

```

```

8677 \def\Hy@temp{#3}%
8678 \ifx\Hy@temp\@empty
8679 \else
8680 \ltx@ReturnAfterFi{%
8681 \HyInd@hyperpage#3\@nil
8682 }%
8683 \fi
8684 }
8685 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8686 \def\@hyperpage#1--#2--#3\{\{%
8687 \ifx\#2\%
8688 \@commahyperpage{#1}%
8689 \else
8690 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8691 \fi
8692 }
8693 \def\@commahyperpage#1{\@@commahyperpage#1, \}
8694 \def\@@commahyperpage#1, #2, #3\{\{%
8695 \ifx\#2\%
8696 \HyInd@pagelink{#1}%
8697 \else
8698 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8699 \fi
8700 }

```

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

```

8701 \def\HyInd@pagelink#1{%
8702 \begingroup
8703 \toks@={}%
8704 \HyInd@removespaces#1 \@nil
8705 \endgroup
8706 }
8707 \def\HyInd@removespaces#1 #2\@nil{%
8708 \toks@=\expandafter{\the\toks@#1}%
8709 \ifx\#2\%
8710 \edef\x{\the\toks@}%
8711 \ifx\x\@empty
8712 \else
8713 \hyperlink{page.\the\toks@}{\the\toks@}%
8714 \fi
8715 \else
8716 \ltx@ReturnAfterFi{%
8717 \HyInd@removespaces#2\@nil
8718 }%
8719 \fi
8720 }

```

## 45 Compatibility with foiltex

```

8721 \@ifclassloaded{foils}{%
8722 \providecommand*\ext@table{lot}%
8723 \providecommand*\ext@figure{lof}%
8724 }{}

```

## 46 Compatibility with seminar slide package

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

```
8725 \@ifclassloaded{seminar}{%
8726   \Hy@seminarslidestrue
8727   \providecommand\theHslide{\arabic{slide}}%
8728 }{%
8729   \Hy@seminarslidesfalse
8730 }
8731 \@ifpackageloaded{slidesec}{%
8732   \providecommand\theHslidesection {\arabic{slidesection}}%
8733   \providecommand\theHslidesubsection{%
8734     \theHslidesection.\arabic{slidesubsection}}%
8735 }%
8736 \def\slide@heading[#1]#2{%
8737   \H@refstepcounter{slidesection}%
8738   \@addtoreset{slidesubsection}{slidesection}%
8739   \addtocontents{los}{%
8740     \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8741     {\@SCTR}{slideheading.\theslidesection}}%
8742 }%
8743 \def\Hy@tempa{#2}%
8744 \ifx\Hy@tempa\@empty
8745   \else
8746     {%
8747       \edef\@currentlabel{%
8748         \csname p@slidesection\endcsname\theslidesection
8749       }%
8750       \makeslideheading{#2}%
8751     }%
8752   \fi
8753   \gdef\theslideheading{#1}%
8754   \gdef\theslidesubheading{}%
8755   \ifHy@bookmarksnumbered
8756     \def\Hy@slidetitle{\theslidesection\space #1}%
8757   \else
8758     \def\Hy@slidetitle{#1}%
8759   \fi
8760   \ifHy@hypertextnames
8761     \ifHy@naturalnames
8762       \hyper@@anchor{slideheading.\theslidesection}{\relax}%
8763       \Hy@writebookmark
8764         {\theslidesection}%
8765         {\Hy@slidetitle}%
8766         {slideheading.\theslidesection}%
8767         {1}%
8768       {toc}%
8769     \else
8770       \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8771       \Hy@writebookmark
8772         {\theslidesection}%
8773         {\Hy@slidetitle}%
8774         {slideheading.\theHslidesection}%
8775         {1}%
8776       {toc}%
8777     \fi
```

```

8778 \else
8779 \Hy@GlobalStepCount\Hy@linkcounter
8780 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8781 \Hy@writebookmark
8782 {\theslidesubsection}%
8783 {\Hy@slidetitle}%
8784 {slideheading.\the\Hy@linkcounter}%
8785 {1}%
8786 {toc}%
8787 \fi
8788 }%
8789 \def\slide@subheading[#1]#2{%
8790 \H@refstepcounter{slidesubsection}%
8791 \addtocontents{los}{%
8792 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8793 {\@SCTR}{slideheading.\theslidesubsection}%
8794 }%
8795 \def\Hy@tempa{#2}%
8796 \ifx\Hy@tempa\@empty
8797 \else
8798 {%
8799 \edef\@currentlabel{%
8800 \csname p@slidesubsection\endcsname\theslidesubsection
8801 }%
8802 \makeslide@subheading{#2}%
8803 }%
8804 \fi
8805 \gdef\theslide@subheading{#1}%
8806 \ifHy@bookmarksnumbered
8807 \def\Hy@slidetitle{\theslidesubsection\space #1}%
8808 \else
8809 \def\Hy@slidetitle{#1}%
8810 \fi
8811 \ifHy@hypertextnames
8812 \ifHy@naturalnames
8813 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8814 \Hy@writebookmark
8815 {\theslidesubsection}%
8816 {\Hy@slidetitle}%
8817 {slideheading.\theslidesubsection}%
8818 {2}%
8819 {toc}%
8820 \else
8821 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8822 \Hy@writebookmark
8823 {\theslidesubsection}%
8824 {\Hy@slidetitle}%
8825 {slideheading.\theHslidesubsection}%
8826 {2}%
8827 {toc}%
8828 \fi
8829 \else
8830 \Hy@GlobalStepCount\Hy@linkcounter
8831 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8832 \Hy@writebookmark
8833 {\theslidesubsection}%
8834 {\Hy@slidetitle}%

```

```

8835     {slideheading.\the\Hy@linkcounter}%
8836     {1}%
8837     {toc}%
8838   \fi
8839 }%
8840 \providecommand*\listslidenamename{List of Slides}%
8841 \def\listofslides{%
8842   \section*{%
8843     \listslidenamename
8844     \@mkboth{%
8845       \expandafter\MakeUppercase\listslidenamename
8846     }{%
8847       \expandafter\MakeUppercase\listslidenamename
8848     }%
8849   }%
8850   \def\l@slide###1##2###3###4{%
8851     \slide@undottedcline{%
8852       \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8853     }{%
8854     }%
8855     \let\l@subslide\l@slide
8856     \@startlos
8857   }%
8858   \def\slide@contents{%
8859     \def\l@slide###1##2###3###4{%
8860       \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8861     }%
8862     \let\l@subslide\@gobblefour
8863     \@startlos
8864   }%
8865   \def\Slide@contents{%
8866     \def\l@slide###1##2###3###4{%
8867       \ifcase\lslide@flag
8868         \message{##1 ** \the\c@slidesection}%
8869         \ifnum##1>\c@slidesection
8870           \def\lslide@flag{1}%
8871           {%
8872             \large
8873             \slide@ccline{%
8874               \slidenumberline{$\Rightarrow\bullet$}%
8875               {\hyperlink{##4}{##2}}%
8876             }{##3}%
8877           }%
8878         \else
8879           {%
8880             \large
8881             \slide@ccline{%
8882               \slidenumberline{$\surd\;\bullet$}%
8883               {\hyperlink{##4}{##2}}%
8884             }{##3}%
8885           }%
8886         \fi
8887       \or
8888       \def\lslide@flag{2}%
8889       {%
8890         \large
8891         \slide@ccline{%

```



```

8892         \slidenumberline{$\bullet$}%
8893         {\hyperlink{##4}{##2}}}%
8894     }{##3}%
8895 }%
8896 \or
8897 {%
8898     \large
8899     \slide@cline{%
8900         \slidenumberline{$\bullet$}%
8901         {\hyperlink{##4}{##2}}}%
8902     }{##3}%
8903 }%
8904 \fi
8905 }%
8906 \def\l@subslide##1##2##3##4{%
8907     \ifnum\lslide@flag=1 %
8908         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}}%
8909     \fi
8910 }%
8911 \def\lslide@flag{0}%
8912 \@startlos
8913 }%
8914 }{}

```

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.)

```

8915 \ifHy@texht
8916     \expandafter\endinput
8917 \fi
8918 \let\real@setref\@setref
8919 \def\@setref#1#2#3{% csname, extract group, refname
8920     \ifx#1\relax
8921         \protect\G@refundefinedtrue
8922         \nfss@text{\reset@font\bfseries ??}%
8923         \@latex@warning{%
8924             Reference ‘#3’ on page \thepage \space undefined%
8925         }%
8926     \else
8927         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8928     \fi
8929 }

```

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

```

8930 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8931     \begingroup
8932     \toks0={\hyper@@link{#5}{#4}}%
8933     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8934     \edef\x{\endgroup
8935         \the\toks0 {\the\toks1 }%
8936     }%
8937     \x
8938 }
8939 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8940     \ifx#1\relax
8941         \protect\G@refundefinedtrue
8942         \nfss@text{\reset@font\bfseries ??}%

```

```

8943 \latex@warning{%
8944     Reference '#3' on page \thepage \space undefined%
8945 }%
8946 \else
8947 \protect\hyper@@link
8948 {\expandafter\@fifthoffive#1}%
8949 {page.\expandafter\@secondoffive#1}%
8950 {\expandafter\@secondoffive#1}%
8951 \fi
8952 }

8953 \end{package}
8954 \check
8955 \checklatex
8956 \checkcommand\def\@setref#1#2#3{%
8957 \ifx#1\relax
8958 \protect\G@refundefinedtrue
8959 \nfss@text{\reset@font\bfseries ??}%
8960 \latex@warning{%
8961     Reference '#3' on page \thepage\space undefined%
8962 }%
8963 \else
8964 \expandafter#2#1\relax
8965 \fi
8966 }
8967 \end{check}
8968 \end{package}

```

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

```

8969 \def\HyRef@StarSetRef#1{%
8970 \begingroup
8971 \Hy@safe@activetrue
8972 \edef\x{#1}%
8973 \@onelevel@sanitize\x
8974 \edef\x{\endgroup
8975 \noexpand\HyRef@@StarSetRef
8976 \expandafter\noexpand\csname r@\x\endcsname{\x}}%
8977 }%
8978 \x
8979 }

8980 \def\HyRef@@StarSetRef#1#2#3{%
8981 \ifx#1\@undefined
8982 \let#1\relax
8983 \fi
8984 \real@setref#1#3{#2}%
8985 }

8986 \def\@refstar#1{%
8987 \HyRef@StarSetRef{#1}\@firstoffive
8988 }

8989 \def\@pagerefstar#1{%
8990 \HyRef@StarSetRef{#1}\@secondoffive
8991 }

8992 \def\@namerefstar#1{%
8993 \HyRef@StarSetRef{#1}\@thirdoffive
8994 }

8995 \Hy@AtBeginDocument{%
8996 \ifpackageloaded{varioref}{%

```

```

8997 \def\@Refstar#1{%
8998   \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8999 }%
9000 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
9001   \MakeUppercase#1%
9002 }%
9003 \DeclareRobustCommand*{\Ref}{%
9004   \@ifstar\@Refstar\HyRef@Ref
9005 }%
9006 \def\HyRef@Ref#1{%
9007   \hyperref[{#1}]{\Ref*{#1}}%
9008 }%
9009 \def\Vr@f#1{%
9010   \leavevmode\unskip\vref@space
9011   \hyperref[{#1}]{%
9012     \Ref*{#1}%
9013     \let\vref@space\nobreakspace
9014     \@vpageref[\unskip]{#1}%
9015   }%
9016 }%
9017 \def\vr@f#1{%
9018   \leavevmode\unskip\vref@space
9019   \begingroup
9020   \let\T@pageref\@pagerefstar
9021   \hyperref[{#1}]{%
9022     \ref*{#1}%
9023     \vpageref[\unskip]{#1}%
9024   }%
9025   \endgroup
9026 }%
9027 }{%%
9028 }
9029 \DeclareRobustCommand*{\autopageref}{%
9030   \@ifstar{%
9031     \HyRef@autopagerefname\pageref*%
9032   }\HyRef@autopageref
9033 }
9034 \def\HyRef@autopageref#1{%
9035   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
9036 }
9037 \def\HyRef@autopagerefname{%
9038   \ltx@ifundefined{pageautorefname}{%
9039     \ltx@ifundefined{pagename}{%
9040       \Hy@Warning{No autoref name for 'page'}%
9041     }{%
9042       \pagename\nobreakspace
9043     }%
9044   }{%
9045     \pageautorefname\nobreakspace
9046   }%
9047 }

```

\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.

```

9048 \DeclareRobustCommand*{\autoref}{%
9049   \leavevmode
9050   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
9051 }

```

```

9052 \def\HyRef@autoref#1#2{%
9053   \begingroup
9054   \Hy@safe@activestrue
9055   \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
9056 \endgroup
9057 }
9058 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
9059   \HyRef@ShowKeysRef{#2}%
9060   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref\undefined 1\fi\relax
9061   \edef\HyRef@thisref{%
9062     \expandafter\@fourthoffive#1\@empty\@empty\@empty
9063   }%
9064   \expandafter\HyRef@testreftype\HyRef@thisref.\.%
9065   \Hy@safe@activesfalse
9066   #3{%
9067     \expandafter\@fifthoffive#1\@empty\@empty\@empty
9068   }{%
9069     \expandafter\@fourthoffive#1\@empty\@empty\@empty
9070   }{%
9071     \HyRef@currentHtag
9072     \expandafter\@firstoffive#1\@empty\@empty\@empty
9073     \null
9074   }%
9075 \else
9076   \protect\G@refundefinedtrue
9077   \nfss@text{\reset@font\bfseries ??}%
9078   \@latex@warning{%
9079     Reference ‘#2’ on page \thepage\space undefined%
9080   }%
9081 \fi
9082 }
9083 \def\HyRef@testreftype#1.#2\{%
9084   \ltx@ifundefined{#1autorefname}{%
9085     \ltx@ifundefined{#1name}{%
9086       \HyRef@StripStar#1\*\*\@nil{#1}%
9087       \ltx@ifundefined{\HyRef@name autorefname}{%
9088         \ltx@ifundefined{\HyRef@name name}{%
9089           \def\HyRef@currentHtag{%
9090             \Hy@Warning{No autoref name for ‘#1’}%
9091           }{%
9092             \edef\HyRef@currentHtag{%
9093               \expandafter\noexpand\csname\HyRef@name name\endcsname
9094               \noexpand~%
9095             }%
9096           }%
9097         }{%
9098           \edef\HyRef@currentHtag{%
9099             \expandafter\noexpand
9100             \csname\HyRef@name autorefname\endcsname
9101             \noexpand~%
9102           }%
9103         }%
9104       }{%
9105         \edef\HyRef@currentHtag{%
9106           \expandafter\noexpand\csname#1name\endcsname
9107           \noexpand~%
9108         }%

```

```

9109 }%
9110 }{%
9111 \edef\HyRef@currentHtag{%
9112   \expandafter\noexpand\csname#1\autorefname\endcsname
9113   \noexpand~%
9114 }%
9115 }%
9116 }
9117 \def\HyRef@StripStar#1*\#2\@nil#3{%
9118   \def\HyRef@name{#2}%
9119   \ifx\HyRef@name\HyRef@CaseStar
9120     \def\HyRef@name{#1}%
9121   \else
9122     \def\HyRef@name{#3}%
9123   \fi
9124 }
9125 \def\HyRef@CaseStar{*\\}
9126 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

9127 \let\HyRef@ShowKeysRef\@gobble
9128 \def\HyRef@ShowKeysInit{%
9129   \begingroup\expandafter\expandafter\expandafter\endgroup
9130   \expandafter\ifx\csname SK@@label\endcsname\relax
9131   \else
9132     \ifx\SK@ref\@empty
9133     \else
9134       \def\HyRef@ShowKeysRef{%
9135         \SK@\SK@\@ref
9136       }%
9137     \fi
9138   \fi
9139 }
9140 \@ifpackageloaded{showkeys}{%
9141   \HyRef@ShowKeysInit
9142 }{%
9143   \Hy@AtBeginDocument{%
9144     \@ifpackageloaded{showkeys}{%
9145       \HyRef@ShowKeysInit
9146     }{%
9147     }%
9148 }

```

Defaults for the names that \autoref uses.

```

9149 \providecommand*\AMSautorefname{\equationautorefname}
9150 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
9151 \providecommand*\Itemautorefname{\itemautorefname}
9152 \providecommand*\itemautorefname{item}
9153 \providecommand*\equationautorefname{Equation}
9154 \providecommand*\footnoteautorefname{footnote}
9155 \providecommand*\itemautorefname{item}
9156 \providecommand*\figureautorefname{Figure}
9157 \providecommand*\tableautorefname{Table}
9158 \providecommand*\partautorefname{Part}
9159 \providecommand*\appendixautorefname{Appendix}
9160 \providecommand*\chapterautorefname{chapter}

```

```

9161 \providecommand*\sectionautorefname{section}
9162 \providecommand*\subsectionautorefname{subsection}
9163 \providecommand*\subsubsectionautorefname{subsubsection}
9164 \providecommand*\paragraphautorefname{paragraph}
9165 \providecommand*\subparagraphautorefname{subparagraph}
9166 \providecommand*\FancyVerbLineautorefname{line}
9167 \providecommand*\theoremautorefname{Theorem}
9168 \providecommand*\pageautorefname{page}
9169 \end{package}

```

## 47 Configuration files

### 47.1 PS/PDF strings

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

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

```

9170 (*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo)
9171 \begingroup\expandafter\expandafter\expandafter\endgroup
9172 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
9173   \begingroup
9174     \catcode'\|=0 %
9175     \@makeother\|%
9176     |@firstofone{|endgroup
9177     |def|Hy@pstringdef#1#2{%
9178       |begingroup
9179         |edef~{|string~}%
9180         |xdef|Hy@gtemp{#2}%
9181       |endgroup
9182       |let#1|Hy@gtemp
9183       |@onelevel@sanitize#1%
9184       |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
9185       |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
9186       |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
9187     }%
9188     |def|Hy@ExchangeBackslash#1\#2|@nil{%
9189       #1%
9190       |ifx|\#2|\%%
9191       |else
9192         \\\%
9193         |ltx@ReturnAfterFi{%
9194           |Hy@ExchangeBackslash#2|@nil
9195         }%
9196       |fi
9197     }%
9198   }%
9199   \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
9200     #1%
9201     \ifx\#2\%%
9202     \else
9203       \@backslashchar(%
9204       \ltx@ReturnAfterFi{%

```

```

9205     \Hy@ExchangeLeftParenthesis#2\@nil
9206   }%
9207   \fi
9208 }%
9209 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
9210   #1%
9211   \ifx\#2\%
9212   \else
9213     \@backslashchar)%
9214     \ltx@ReturnAfterFi{%
9215       \Hy@ExchangeRightParenthesis#2\@nil
9216     }%
9217   \fi
9218 }%
9219 \else
9220 \def\Hy@pstringdef#1#2{%
9221   \begingroup
9222     \edef~{\string~}%
9223     \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
9224   \endgroup
9225   \let#1\Hy@gtemp
9226 }%
9227 \fi
9228 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 47.2 pdfTeX

```

9229 <*pdfTeX>
9230 \providecommand*\XR@ext}{pdf}
9231 \Hy@setbreaklinks{true}
9232 \def\HyPat@ObjRef{%
9233   [0-9]*[1-9][0-9]* 0 R%
9234 }

```

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

```

9235 \let\Hy@pdfminorversion\relax
9236 \begingroup\expandafter\expandafter\expandafter\endgroup
9237 \expandafter\ifx\csname pdfminorversion\endcsname\relax
9238   \begingroup\expandafter\expandafter\expandafter\endgroup
9239   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
9240   \else
9241     \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
9242   \fi
9243 \else
9244   \def\Hy@pdfminorversion{\pdfminorversion}%
9245 \fi
9246 \@ifundefined{Hy@pdfminorversion}{%
9247   \PackageInfo{hyperref}{%
9248     PDF version is not set, because pdfTeX is too old (<1.10a)%
9249   }%
9250 }{

```

```

9251 \ifHy@ocgcolorlinks
9252   \ifnum\Hy@pdfminorversion<5 %
9253     \kvsetkeys{Hyp}{pdfversion=1.5}%
9254   \fi
9255 \fi
9256 \ifHy@setpdfversion
9257   \ifnum\Hy@pdfversion<5 %
9258     \ltx@ifundefined{pdfobjcompresslevel}{%
9259       {%
9260         \ifHy@verbose
9261           \Hy@InfoNoLine{%
9262             PDF object streams are disabled, because they are%
9263             \MessageBreak
9264             not supported in requested PDF version %
9265             1.\Hy@pdfversion
9266           }%
9267         \fi
9268         \pdfobjcompresslevel=\ltx@zero
9269       }%
9270     \fi
9271   \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
9272   \else
9273     \let\Hy@temp\ltx@empty
9274     \def\Hy@temp@A#1#2{%
9275       \ifnum#1>\ltx@zero
9276         \edef\Hy@temp{%
9277           \Hy@temp
9278           \space\space
9279           \the#1\space #2%
9280           \ifnum#1=\ltx@one\else s\fi
9281           \MessageBreak
9282         }%
9283       \fi
9284     }%
9285     \Hy@temp@A\pdflastobj{PDF object}%
9286     \Hy@temp@A\pdflastxform{form XObject}%
9287     \Hy@temp@A\pdflastximage{image XObject}%
9288     \Hy@temp@A\pdflastannot{annotation}%
9289     \ltx@ifundefined{pdflastlink}{%
9290       {%
9291         \Hy@temp@A\pdflastlink{link}%
9292       }%
9293     \ifx\Hy@temp\ltx@empty
9294       \Hy@pdfminorversion=\Hy@pdfversion\relax
9295     \else
9296       \let\Hy@temp@A\ltx@empty
9297       \ifnum\Hy@pdfversion=4 %
9298         \IfFileExists{pdf14.sty}{%
9299           \def\Hy@temp@A{%
9300             \MessageBreak
9301             Or \string\RequirePackage{pdf14} can be used%
9302             \MessageBreak
9303             before \string\documentclass\space as shortcut%
9304           }%
9305         }{}%
9306       \fi
9307       \Hy@WarningNoLine{%

```



```

9308     The PDF version number could not be set,\MessageBreak
9309     because some PDF objects are already written:%
9310     \MessageBreak
9311     \Hy@temp
9312     The version should be set as early as possible:%
9313     \MessageBreak
9314     \space\space
9315     \expandafter\string\Hy@pdfminorversion=\Hy@pdfversion
9316     \string\relax
9317     \ifnum\Hy@pdfversion<5 %
9318     \ltx@ifundefined{pdfobjcompresslevel}{%
9319     }{%
9320     \MessageBreak
9321     \space\space
9322     \string\pdfobjcompresslevel=0\string\relax
9323     }%
9324     \fi
9325     \Hy@temp@A
9326     }%
9327     \fi
9328     \fi
9329     \PackageInfo{hyperref}{%
9330     \expandafter\string\Hy@pdfminorversion
9331     :=\number\Hy@pdfversion\space
9332     }%
9333     \fi
9334     \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
9335 }
9336 \Hy@DisableOption{pdfversion}%

9337 \ifHy@ocgcolorlinks
9338 \pdf@ifdraftmode{}{%
9339 \immediate\pdfobj{%
9340 <<%
9341 /Type/OCG%
9342 /Name(View)%
9343 /Usage<<%
9344 /Print<<%
9345 /PrintState/OFF%
9346 >>%
9347 /View<<%
9348 /ViewState/ON%
9349 >>%
9350 >>%
9351 >>%
9352 }%
9353 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
9354 \immediate\pdfobj{%
9355 <<%
9356 /Type/OCG%
9357 /Name(Print)%
9358 /Usage<<%
9359 /Print<<%
9360 /PrintState/ON%
9361 >>%
9362 /View<<%
9363 /ViewState/OFF%
9364 >>%

```

```

9365     >>%
9366     >>%
9367 }%
9368 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
9369 \immediate\pdfobj{%
9370 [%
9371   \OBJ@OCG@view\space\OBJ@OCG@print
9372 ]%
9373 }%
9374 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
9375 \pdfcatalog{%
9376   /OCProperties<<%
9377     /OCGs \OBJ@OCGs
9378   /D<<%
9379     /OFF[\OBJ@OCG@print]%
9380   /AS[%
9381     <<%
9382       /Event/View%
9383       /OCGs \OBJ@OCGs
9384       /Category[/View]%
9385     >>%
9386     <<%
9387       /Event/Print%
9388       /OCGs \OBJ@OCGs
9389       /Category[/Print]%
9390     >>%
9391     <<%
9392       /Event/Export%
9393       /OCGs \OBJ@OCGs
9394       /Category[/Print]%
9395     >>%
9396   ]%
9397   >>%
9398   >>%
9399 }%
9400 \begingroup
9401 \edef\x{\endgroup
9402   \pdfpageresources{%
9403     \the\pdfpageresources
9404     /Properties<<%
9405       /OCView \OBJ@OCG@view
9406       /OCPrint \OBJ@OCG@print
9407     >>%
9408   }%
9409 }%
9410 \x
9411 }%
9412 \Hy@AtBeginDocument{%
9413   \def\Hy@colorlink#1{%
9414     \begingroup
9415     \ifHy@ocgcolorlinks
9416       \def\Hy@ocgcolor{#1}%
9417       \setbox0=\hbox\bgroup\color@begingroup
9418     \else
9419       \HyColor@UseColor#1%
9420     \fi
9421   }%

```

```

9422 \def\Hy@endcolorlink{%
9423 \ifHy@ocgcolorlinks
9424 \color@endgroup\egroup
9425 \mbox{%
9426 \pdfliteral page{/OC/OCPrint BDC}%
9427 \rlap{\copy0}%
9428 \pdfliteral page{EMC/OC/OCView BDC}%
9429 \begingroup
9430 \expandafter\HyColor@UseColor\Hy@ocgcolor
9431 \box0 %
9432 \endgroup
9433 \pdfliteral page{EMC}%
9434 }%
9435 \fi
9436 \endgroup
9437 }%
9438 }%
9439 \else
9440 \Hy@DisableOption{ocgcolorlinks}%
9441 \fi

```

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

```

9442 \def\setpdfinkmargin#1{%
9443 \begingroup
9444 \setlength{\dimen@}{#1}%
9445 \expandafter\endgroup
9446 \expandafter\pdfinkmargin\the\dimen@\relax
9447 }
9448 \ifx\pdfstartlink\@undefined% less than version 14
9449 \let\pdfstartlink\pdfannotlink
9450 \let\pdfinkmargin\@tempdima
9451 \let\pdfxform\pdfform
9452 \let\pdfastxform\pdfastform
9453 \let\pdfrefxform\pdfrefform
9454 \else
9455 \pdfinkmargin1pt %
9456 \fi

```

First set up the default linking

```
9457 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

9458 \Hy@WrapperDef\new@pdfink#1{%
9459 \ifhmode
9460 \@savsf\spacefactor
9461 \fi
9462 \Hy@SaveLastskip
9463 \Hy@VerboseAnchor{#1}%
9464 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9465 \Hy@DestName\Hy@pstringDest\@pdfview
9466 \Hy@RestoreLastskip
9467 \ifhmode
9468 \spacefactor\@savsf
9469 \fi
9470 }
9471 \let\pdf@endanchor\@empty

```

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

```

9472 \def\Hy@DestName#1#2{%
9473   \pdfdest name{#1}#2\relax
9474 }

```

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.

```

9475 \providecommand*\@pdfborder{0 0 1}
9476 \providecommand*\@pdfborderstyle{}
9477 \def\Hy@undefinedname{UNDEFINED}
9478 \def\find@pdflink#1#2{%
9479   \leavevmode
9480   \protected@edef\Hy@testname{#2}%
9481   \ifx\Hy@testname\@empty
9482     \Hy@Warning{%
9483       Empty destination name,\MessageBreak
9484       using '\Hy@undefinedname'%
9485     }%
9486     \let\Hy@testname\Hy@undefinedname
9487   \else
9488     \Hy@pstringdef\Hy@testname{%
9489       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
9490     }%
9491   \fi
9492   \Hy@StartlinkName{%
9493     \ifHy@pdfa /F 4\fi
9494     \Hy@setpdfborder
9495     \ifx\@pdfhighlight\@empty
9496       \else
9497         /H\@pdfhighlight
9498       \fi
9499       \ifx\CurrentBorderColor\relax
9500         \else
9501           /C[\CurrentBorderColor]%
9502         \fi
9503     }\Hy@testname
9504     \expandafter\Hy@colorlink\csname @#1color\endcsname
9505   }
9506   \def\Hy@StartlinkName#1#2{%
9507     \pdfstartlink attr{#1}goto name{#2}\relax
9508   }
9509   \def\close@pdflink{%
9510     \Hy@endcolorlink
9511     \Hy@VerboseLinkStop
9512   \pdfendlink
9513 }
9514 \def\hyper@anchor#1{%
9515   \new@pdflink{#1}\anchor@spot\pdf@endanchor
9516 }
9517 \def\hyper@anchorstart#1{%
9518   \new@pdflink{#1}%
9519   \Hy@activeanchortrue
9520 }
9521 \def\hyper@anchorend{%
9522   \pdf@endanchor
9523   \Hy@activeanchorfalse

```

```

9524 }
9525 \def\hyper@linkstart#1#2{%
9526 \Hy@VerboseLinkStart{#1}{#2}%
9527 \ltx@ifundefined{#@1bordercolor}{%
9528 \let\CurrentBorderColor\relax
9529 }{%
9530 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9531 }%
9532 \find@pdfink{#1}{#2}%
9533 }
9534 \def\hyper@linkend{\close@pdfink}
9535 \def\hyper@link#1#2#3{%
9536 \Hy@VerboseLinkStart{#1}{#2}%
9537 \ltx@ifundefined{#@1bordercolor}{%
9538 \let\CurrentBorderColor\relax
9539 }{%
9540 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9541 }%
9542 \find@pdfink{#1}{#2}#3\Hy@xspace@end
9543 \close@pdfink
9544 }
9545 \let\CurrentBorderColor\@linkbordercolor
9546 \def\hyper@linkurl#1#2{%
9547 \begingroup
9548 \Hy@pstringdef\Hy@pstringURI{#2}%
9549 \hyper@chars
9550 \leavevmode
9551 \pdfstartlink
9552 attr{%
9553 \Hy@setpdfborder
9554 \ifx\@pdfhighlight\@empty
9555 \else
9556 /H\@pdfhighlight
9557 \fi
9558 \ifx\@urlbordercolor\relax
9559 \else
9560 /C[\@urlbordercolor]%
9561 \fi
9562 }%
9563 user{%
9564 /Subtype/Link%
9565 \ifHy@pdfa /F 4\fi
9566 /A<<%
9567 /Type/Action%
9568 /S/URI%
9569 /URI(\Hy@pstringURI)%
9570 \ifHy@href@ismap
9571 /IsMap true%
9572 \fi
9573 \Hy@href@nextactionraw
9574 >>%
9575 }%
9576 \relax
9577 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9578 \close@pdfink
9579 \endgroup
9580 }

```

```

9581 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9582 \begingroup
9583 \def\Hy@pstringF{#2}%
9584 \Hy@CleanupFile\Hy@pstringF
9585 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9586 \Hy@pstringdef\Hy@pstringD{#3}%
9587 \Hy@MakeRemoteAction
9588 \leavevmode
9589 \pdfstartlink
9590 attr{%
9591 \Hy@setpdfborder
9592 \ifx\@pdfhighlight\@empty
9593 \else
9594 /H\@pdfhighlight
9595 \fi
9596 \ifx\@filebordercolor\relax
9597 \else
9598 /C[\@filebordercolor]%
9599 \fi
9600 }%
9601 user {%
9602 /Subtype/Link%
9603 \ifHy@pdfa /F 4\fi
9604 /A<<%
9605 /F(\Hy@pstringF)%
9606 /S/GoToR%
9607 \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}

```

```

9608 \ifx\#3\%
9609 /D[\Hy@href@page\@pdfremotestartview]%
9610 \else
9611 /D(\Hy@pstringD)%
9612 \fi
9613 \Hy@href@nextactionraw
9614 >>%
9615 }%
9616 \relax
9617 \Hy@colorlink\@filecolor#1\Hy@xspace@end
9618 \close@pdflink
9619 \endgroup
9620 }
9621 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9622 \begingroup
9623 \Hy@pstringdef\Hy@pstringF{#1}%
9624 \Hy@pstringdef\Hy@pstringP{#3}%
9625 \leavevmode

```

```

9626 \pdfstartlink
9627   attr{%
9628     \Hy@setpdfborder
9629     \ifx\@pdfhighlight\@empty
9630     \else
9631       /H\@pdfhighlight
9632     \fi
9633     \ifx\@runbordercolor\relax
9634     \else
9635       /C[\@runbordercolor]%
9636     \fi
9637   }%
9638   user {%
9639     /Subtype/Link%
9640     \ifHy@pdfa /F 4\fi
9641     /A<<%
9642       /F(\Hy@pstringF)%
9643       /S/Launch%
9644       \Hy@SetNewWindow
9645       \ifx\#3\%
9646       \else
9647         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9648       \fi
9649       \Hy@href@nextactionraw
9650     >>%
9651   }%
9652   \relax
9653   \Hy@colorlink\@runcolor#2\Hy@xspace@end
9654   \close@pdflink
9655 \endgroup
9656 }

```

\@pdfproducer

```

9657 \ifx\@pdfproducer\relax
9658 \begingroup\expandafter\expandafter\expandafter\endgroup
9659 \expandafter\ifx\cname luatexversion\endcsname\relax
9660 \def\@pdfproducer{pdfTeX}%
9661 \ifx\eTeXversion\@undefined
9662 \else
9663 \ifx\eTeXversion\relax
9664 \else
9665 \ifnum\eTeXversion>0 %
9666 \def\@pdfproducer{pdfTeX}%
9667 \fi
9668 \fi
9669 \fi
9670 \ifx\pdfTeXversion\@undefined
9671 \else
9672 \ifnum\pdfTeXversion<100 %
9673 \edef\@pdfproducer{%
9674   \@pdfproducer
9675   \the\pdfTeXversion.\pdfTeXrevision
9676 }%
9677 \else
9678 \ifnum\pdfTeXversion<130 %
9679 \edef\@pdfproducer{%
9680   \@pdfproducer-%

```

```

9681     \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9682     \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
9683     \pdfTeXrevision
9684   }%
9685   \else
9686     \ifnum\pdfTeXversion<140 %
9687     \else
9688       \def\@pdfproducer{pdfTeX}%
9689     \fi
9690     \edef\@pdfproducer{%
9691       \@pdfproducer-%
9692       \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9693       \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9694       \pdfTeXrevision
9695     }%
9696   \fi
9697 \fi
9698 \fi
9699 \else
9700   \begingroup
9701     \count@=\luatexversion
9702     \divide\count@ by 100 %
9703     \edef\x{\the\count@}%
9704     \count@=-\x\relax
9705     \multiply\count@ by 100 %
9706     \advance\count@ by \luatexversion
9707     \edef\x{\endgroup
9708       \def\noexpand\@pdfproducer{%
9709         LuaTeX-\x.\the\count@.\luatexrevision
9710       }%
9711     }%
9712   \x
9713 \fi
9714 \fi

```

\PDF@SetupDox

```

9715 \def\PDF@SetupDoc{%
9716   \ifx\@pdfpagescrop\@empty
9717   \else
9718     \edef\process@me{%
9719       \pdfpagesattr={%
9720         /CropBox[\@pdfpagescrop]%
9721         \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
9722         \else
9723           ^^J\the\pdfpagesattr
9724         \fi
9725       }%
9726     }%
9727     \process@me
9728   \fi
9729   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9730   \pdfcatalog{%
9731     /PageMode/\@pdfpagemode
9732     \ifx\@baseurl\@empty
9733     \else
9734       /URI<</Base(\Hy@pstringB)>>%
9735     \fi
9736   }%

```



```

9737 \ifx\@pdfstartpage\@empty
9738 \else
9739 \ifx\@pdfstartview\@empty
9740 \else
9741 openaction goto page\@pdfstartpage{\@pdfstartview}%
9742 \fi
9743 \fi
9744 \edef\Hy@temp{%
9745 \ifHy@pdftoolbar\else /HideToolbar true\fi
9746 \ifHy@pdfmenubar\else /HideMenubar true\fi
9747 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9748 \ifHy@pdfwindow /FitWindow true\fi
9749 \ifHy@pdfcenterwindow /CenterWindow true\fi
9750 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9751 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9752 \Hy@UseNameKey{Direction}\@pdfdirection
9753 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9754 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9755 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9756 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9757 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9758 \Hy@UseNameKey{Duplex}\@pdfduplex
9759 \ifx\@pdfpicktraybypdfsize\@empty
9760 \else
9761 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9762 \fi
9763 \ifx\@pdfprintpagerange\@empty
9764 \else
9765 /PrintPageRange[\@pdfprintpagerange]%
9766 \fi
9767 \ifx\@pdfnumcopies\@empty
9768 \else
9769 /NumCopies \@pdfnumcopies
9770 \fi
9771 }%
9772 \pdfcatalog{%
9773 \ifx\Hy@temp\@empty
9774 \else
9775 /ViewerPreferences<<\Hy@temp>>%
9776 \fi
9777 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9778 \ifx\@pdflang\@empty
9779 \else
9780 /Lang(\@pdflang)%
9781 \fi
9782 }%
9783 }

```

\PDF@FinishDoc

```

9784 \def\PDF@FinishDoc{%
9785 \pdf@ifdraftmode{}{%
9786 \Hy@UseMaketitleInfos
9787 \HyInfo@GenerateAddons
9788 \pdfinfo{%
9789 /Author(\@pdfauthor)%
9790 /Title(\@pdftitle)%
9791 /Subject(\@pdfsubject)%
9792 /Creator(\@pdfcreator)%

```

```

9793 \ifx\@pdfcreationdate\@empty
9794 \else
9795 /CreationDate(\@pdfcreationdate)%
9796 \fi
9797 \ifx\@pdfmoddate\@empty
9798 \else
9799 /ModDate(\@pdfmoddate)%
9800 \fi
9801 \ifx\@pdfproducer\relax
9802 \else
9803 /Producer(\@pdfproducer)%
9804 \fi
9805 /Keywords(\@pdfkeywords)%
9806 \ifx\@pdftrapped\@empty
9807 \else
9808 /Trapped/\@pdftrapped
9809 \fi
9810 \HyInfo@Addons
9811 }%
9812 }%
9813 \Hy@DisableOption{pdfauthor}%
9814 \Hy@DisableOption{pdftitle}%
9815 \Hy@DisableOption{pdfsubject}%
9816 \Hy@DisableOption{pdfcreator}%
9817 \Hy@DisableOption{pdfcreationdate}%
9818 \Hy@DisableOption{pdfmoddate}%
9819 \Hy@DisableOption{pdfproducer}%
9820 \Hy@DisableOption{pdfkeywords}%
9821 \Hy@DisableOption{pdftrapped}%
9822 \Hy@DisableOption{pdfinfo}%
9823 }

```

`\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`.

```

9824 \def\hyper@pagetransition{%
9825 \ifx\@pdfpagetransition\relax
9826 \else
9827 \expandafter\Hy@RemoveTransPageAttr
9828 \the\pdfpageattr^^J/Trans{}}>>\END
9829 \ifx\@pdfpagetransition\@empty
9830 \else
9831 \edef\@processme{%
9832 \global\pdfpageattr{%
9833 \the\pdfpageattr
9834 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9835 }%
9836 }%
9837 \@processme
9838 \fi
9839 \fi
9840 }

```

`\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.

```

9841 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9842   \ifx\#2\%
9843     \global\pdfpageattr{#1}%
9844   \else
9845     \Hy@RemoveTransPageAttr#1#4\END
9846   \fi
9847 }

```

`\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`.

```

9848 \def\hyper@pageduration{%
9849   \ifx\@pdfpageduration\relax
9850   \else
9851     \expandafter
9852     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9853   \ifx\@pdfpageduration\@empty
9854   \else
9855     \edef\@processme{%
9856       \global\pdfpageattr{%
9857         \the\pdfpageattr
9858         ^^J/Dur \@pdfpageduration\space
9859       }%
9860     }%
9861     \@processme
9862   \fi
9863 \fi
9864 }

```

`\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.

```

9865 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9866   \ifx\#2\%
9867     \global\pdfpageattr{#1}%
9868   \else
9869     \Hy@RemoveDurPageAttr#1#4\END
9870   \fi
9871 }

```

`\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).

```

9872 \def\hyper@pagehidden{%
9873   \ifHy@useHidKey
9874   \expandafter
9875   \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9876   \ifHy@pdfpagehidden
9877     \edef\@processme{%
9878       \global\pdfpageattr{%
9879         \the\pdfpageattr
9880         ^^J/Hid true % SPACE
9881       }%
9882     }%

```

```

9883 \processme
9884 \fi
9885 \fi
9886 }

```

`\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.

```

9887 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9888 \ifx\#2\%
9889 \global\pdfpageattr{#1}%
9890 \else
9891 \Hy@RemoveHidPageAttr#1#4\END
9892 \fi
9893 }

9894 \pdf@ifdraftmode{}{%
9895 \g@addto@macro\Hy@EveryPageHook{%
9896 \hyper@pagetransition
9897 \hyper@pageduration
9898 \hyper@pagehidden
9899 }%
9900 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

9901 \pdfifx{pdf}
9902 \ifxpdfifx{xetex}
9903 \Hy@AtBeginDocument{%
9904 \ifHy@setpagesize
9905 \expandafter\@firstofone
9906 \else
9907 \expandafter\@gobble
9908 \fi
9909 {%
9910 \ifclassloaded{seminar}{%
9911 \pdfifx{pdf}
9912 \setlength{\pdfhorigin}{1truein}%
9913 \setlength{\pdfvorigin}{1truein}%
9914 \pdfifx{pdf}
9915 \ifportrait
9916 \ifdim\paperwidth=\z@
9917 \else
9918 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9919 \fi
9920 \ifdim\paperheight=\z@
9921 \else
9922 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9923 \fi
9924 \else
9925 \ifdim\paperheight=\z@
9926 \else
9927 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9928 \fi
9929 \ifdim\paperwidth=\z@
9930 \else
9931 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%

```

```

9932     \fi
9933     \fi
9934   }{%
9935     \ltx@ifundefined{stockwidth}{%
9936       \ifdim\paperwidth>\z@
9937         \setlength{\pdfpagewidth}{\paperwidth}%
9938       \fi
9939       \ifdim\paperheight>\z@
9940         \setlength{\pdfpageheight}{\paperheight}%
9941       \fi
9942     }{%
9943       \ifdim\stockwidth>\z@
9944         \setlength{\pdfpagewidth}{\stockwidth}%
9945       \fi
9946       \ifdim\stockheight>\z@
9947         \setlength{\pdfpageheight}{\stockheight}%
9948       \fi
9949     }%
9950   }%
9951 }%
9952 \Hy@DisableOption{setpagesize}%
9953 }
9954 </pdfTeX | xetex>
9955 <*pdfTeX>
9956 \def\Acrobatmenu#1#2{%
9957   \Hy@Acrobatmenu{#1}{#2}{%
9958     \leavevmode
9959     \EdefEscapeName\Hy@temp@menu{#1}%
9960     \pdfstartlink
9961     attr{%
9962       \Hy@setpdfborder
9963       \ifx\@pdfhighlight\@empty
9964         \else
9965           /H\@pdfhighlight
9966         \fi
9967       \ifx\@menubordercolor\relax
9968         \else
9969           /C[\@menubordercolor]%
9970       \fi
9971     }%
9972     user{%
9973       /Subtype/Link%
9974       \ifHy@pdfa /F 4\fi
9975       /A<<%
9976       /S/Named%
9977       /N/\Hy@temp@menu
9978       \Hy@href@nextactionraw
9979     >>%
9980   }%
9981   \relax
9982   \Hy@colorlink\@menucolor#2%
9983   \close@pdfink
9984 }%
9985 }

```

### 47.2.1 Fix for problem with different nesting levels

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

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

Since version 2011/10/05 v1.16 of package 'atbegshi' `\AtBeginShipoutFirst` does not add a additional box layer.

```
9986 \def\Hy@FixNotFirstPage{%
9987   \gdef\Hy@FixNotFirstPage{%
9988     \setbox\AtBeginShipoutBox=\hbox{%
9989       \copy\AtBeginShipoutBox
9990     }%
9991   }%
9992 }
9993 \ltx@ifpackagelater{atbegshi}{2011/10/05}{}%
9994 }{%
9995   \AtBeginShipout{\Hy@FixNotFirstPage}%
9996 }
9997 \</pdfTeX>
```

## 47.3 hypertex

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

**href:** html:<a href = "href\_string">

**name:** html:<a name = "name\_string">

**end:** html:</a>

**image:** html:<img src = "href\_string">

**base\_name:** html:<base href = "href\_string">

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base\_name* command is be used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The *href* and *name* commands must be paired with an *end* command later in the TeX file — the TeX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href\_string*. The *anchor* associated with a *name* command represents a possible location to which other hypertext links may refer, either as local references (of the form `href="#name_string"` with the *name\_string* identical to the one in the *name* command) or as part of a URL (of the form `URL#name_string`). Here *href\_string* is a valid URL or local identifier, while *name\_string* could be any string at all: the only caveat is that ‘”’ characters

should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```

9998 (*hypertext)
9999 \providecommand*\XR@ext}{dvi}
10000 \let\PDF@FinishDoc\ltx@empty
10001 \def\PDF@SetupDoc{%
10002   \ifx\@baseurl\@empty
10003   \else
10004     \special{html:<base href="\@baseurl">}%
10005   \fi
10006 }
10007 \Hy@WrapperDef\hyper@anchor#1{%
10008   \Hy@SaveLastskip
10009   \Hy@VerboseAnchor{#1}%
10010   \begingroup
10011     \let\protect=\string
10012     \hyper@chars
10013     \special{html:<a name=%
10014       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10015   \endgroup
10016   \Hy@activeanchortrue
10017   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10018   \special{html:</a>}%
10019   \Hy@activeanchorfalse
10020   \Hy@RestoreLastskip
10021 }
10022 \Hy@WrapperDef\hyper@anchorstart#1{%
10023   \Hy@SaveLastskip
10024   \Hy@VerboseAnchor{#1}%
10025   \begingroup
10026     \hyper@chars
10027     \special{html:<a name=%
10028       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10029   \endgroup
10030   \Hy@activeanchortrue
10031 }
10032 \def\hyper@anchorend{%
10033   \special{html:</a>}%
10034   \Hy@activeanchorfalse
10035   \Hy@RestoreLastskip
10036 }
10037 \def\@urltype{url}
10038 \def\hyper@linkstart#1#2{%
10039   \Hy@VerboseLinkStart{#1}{#2}%
10040   \expandafter\Hy@colorlink\csname @#1color\endcsname
10041   \def\Hy@tempa{#1}%
10042   \ifx\Hy@tempa\@urltype
10043     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10044   \else
10045     \begingroup
10046       \hyper@chars
10047       \special{html:<a href=%
10048         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
10049     \endgroup
10050   \fi
10051 }
10052 \def\hyper@linkend{%

```

```

10053 \special{html:</a>}}%
10054 \Hy@endcolorlink
10055 }
10056 \def\hyper@linkfile#1#2#3{%
10057 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10058 }
10059 \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.

```

10060 \leavevmode
10061 \ifHy@raiselinks
10062 \Hy@SaveSpaceFactor
10063 \Hy@SaveSavedSpaceFactor
10064 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10065 \Hy@RestoreSavedSpaceFactor
10066 \@linkdim\dp\@tempboxa
10067 \lower\@linkdim\hbox{%
10068 \hyper@chars
10069 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
10070 }%
10071 \Hy@colorlink\@urlcolor
10072 \Hy@RestoreSpaceFactor
10073 #1%
10074 \Hy@SaveSpaceFactor
10075 \@linkdim\ht\@tempboxa

```

Because of the interaction with the dvihps processor, we have to subtract a little from the height. This is not clean, or checked. Check with Mark Doyle about what gives here. It may not be needed with the new dvips (Jan 1997).

```

10076 \advance\@linkdim by -6.5\p@
10077 \raise\@linkdim\hbox{\special{html:</a>}}}%
10078 \Hy@endcolorlink
10079 \Hy@RestoreSpaceFactor
10080 \else
10081 \begingroup
10082 \hyper@chars
10083 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
10084 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
10085 \special{html:</a>}}%
10086 \Hy@endcolorlink
10087 \endgroup
10088 \fi
10089 }

```

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

```

10090 \def\hyper@link#1#2#3{%
10091 \Hy@VerboseLinkStart{#1}{#2}%
10092 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
10093 }
10094 \def\hyper@image#1#2{%
10095 \begingroup
10096 \hyper@chars
10097 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
10098 \endgroup
10099 }
10100 </hypertex>

```



10101  $\langle$ \*dviwindo $\rangle$

## 47.4 dviwindo

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

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

```
10102 \providecommand*{\XR@ext}{dvi}
10103 \providecommand*{\wwwbrowser}{c:\string\netscape\string\netscape}
10104 \Hy@WrapperDef\hyper@anchor#1{%
10105   \Hy@SaveLastskip
10106   \Hy@VerboseAnchor{#1}%
10107   \begingroup
10108     \let\protect=\string
10109     \special{mark: #1}%
10110   \endgroup
10111   \Hy@activeanchortrue
10112   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10113   \Hy@activeanchorfalse
10114   \Hy@RestoreLastskip
10115 }
10116 \Hy@WrapperDef\hyper@anchorstart#1{%
10117   \Hy@SaveLastskip
10118   \Hy@VerboseAnchor{#1}%
10119   \special{mark: #1}%
10120   \Hy@activeanchortrue
10121 }
10122 \def\hyper@anchorend{%
10123   \Hy@activeanchorfalse
10124   \Hy@RestoreLastskip
10125 }
10126 \def\hyper@linkstart#1#2{%
10127   \Hy@VerboseLinkStart{#1}{#2}%
10128   \expandafter\Hy@colorlink\csname @#1color\endcsname
10129   \special{button: %
10130     10000000 %
10131     \number\baselineskip\space
10132     #2%
10133   }%
10134 }
10135 \def\hyper@linkend{%
10136   \Hy@endcolorlink
10137 }
10138 \def\hyper@link#1#2#3{%
10139   \Hy@VerboseLinkStart{#1}{#2}%
10140   \leavevmode
10141   \ifHy@raiselinks
10142     \Hy@SaveSpaceFactor
```

```

10143 \Hy@SaveSavedSpaceFactor
10144 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
10145 \Hy@RestoreSavedSpaceFactor
10146 \@linkdim\dp\@tempboxa
10147 \lower\@linkdim\hbox{%
10148   \special{button: %
10149     \number\wd\@tempboxa\space
10150     \number\ht\@tempboxa\space
10151     #2%
10152   }%
10153   \expandafter\Hy@colorlink\csname @#1color\endcsname
10154   \Hy@RestoreSpaceFactor
10155   #3\Hy@xspace@end
10156   \Hy@SaveSpaceFactor
10157   \Hy@endcolorlink
10158 }%
10159 \@linkdim\ht\@tempboxa
10160 \advance\@linkdim by -6.5\p@
10161 \raise\@linkdim\hbox{}%
10162 \Hy@RestoreSpaceFactor
10163 \else
10164   \special{button: %
10165     \number\wd\@tempboxa\space
10166     \number\ht\@tempboxa\space
10167     #2%
10168   }%
10169   \expandafter\Hy@colorlink\csname @#1color\endcsname
10170   #3\Hy@xspace@end
10171   \Hy@endcolorlink
10172 \fi
10173 }
10174 \def\hyper@linkurl#1#2{%
10175   \begingroup
10176   \hyper@chars
10177   \leavevmode
10178   \ifHy@raiselinks
10179     \Hy@SaveSpaceFactor
10180     \Hy@SaveSavedSpaceFactor
10181     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10182     \Hy@RestoreSavedSpaceFactor
10183     \@linkdim\dp\@tempboxa
10184     \lower\@linkdim\hbox{%
10185       \special{button: %
10186         \number\wd\@tempboxa\space
10187         \number\ht\@tempboxa\space
10188         launch: \wwwbrowser\space
10189         #2%
10190       }%
10191       \Hy@colorlink\@urlcolor
10192       \Hy@RestoreSpaceFactor
10193       #1\Hy@xspace@end
10194       \Hy@SaveSpaceFactor
10195       \Hy@endcolorlink
10196     }%
10197     \@linkdim\ht\@tempboxa
10198     \advance\@linkdim by -6.5\p@
10199     \raise\@linkdim\hbox{}%

```

```

10200 \Hy@RestoreSpaceFactor
10201 \else
10202 \special{button: %
10203 \number\wd\@tempboxa\space
10204 \number\ht\@tempboxa\space
10205 launch: \wwwbrowser\space
10206 #2%
10207 }%
10208 \Hy@colorlink\@urlcolor
10209 #1\Hy@xspace@end
10210 \Hy@endcolorlink
10211 \fi
10212 \endgroup
10213 }
10214 \def\hyper@linkfile#1#2#3{%
10215 \begingroup
10216 \hyper@chars
10217 \leavevmode
10218 \ifHy@raiselinks
10219 \Hy@SaveSpaceFactor
10220 \Hy@SaveSavedSpaceFactor
10221 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10222 \Hy@RestoreSavedSpaceFactor
10223 \@linkdim\dp\@tempboxa
10224 \lower\@linkdim\hbox{%
10225 \special{button: %
10226 \number\wd\@tempboxa\space
10227 \number\ht\@tempboxa\space
10228 #3,%
10229 file: #2%
10230 }%
10231 \Hy@colorlink\@filecolor
10232 \Hy@RestoreSpaceFactor
10233 #1\Hy@xspace@end
10234 \Hy@SaveSpaceFactor
10235 \Hy@endcolorlink
10236 }%
10237 \@linkdim\ht\@tempboxa
10238 \advance\@linkdim by -6.5\p@
10239 \raise\@linkdim\hbox{}}%
10240 \Hy@RestoreSpaceFactor
10241 \else
10242 \special{button: %
10243 \number\wd\@tempboxa\space
10244 \number\ht\@tempboxa\space
10245 #3,%
10246 file: #2%
10247 }%
10248 \Hy@colorlink\@filecolor
10249 #1\Hy@xspace@end
10250 \Hy@endcolorlink
10251 \fi
10252 \endgroup
10253 }
10254 \ifx\@pdfproducer\relax
10255 \def\@pdfproducer{dviwindo + Distiller}%
10256 \fi

```

```

10257 \HyInfo@AddonUnsupportedtrue
10258 \def\PDF@FinishDoc{%
10259   \Hy@UseMaketitleInfos
10260   \HyInfo@TrappedUnsupported
10261   \special{PDF: Keywords \@pdfkeywords}%
10262   \special{PDF: Title \@pdftitle}%
10263   \special{PDF: Creator \@pdfcreator}%
10264   \ifx\@pdfcreationdate\@empty
10265   \else
10266     \special{PDF: CreationDate \@pdfcreationdate}%
10267   \fi
10268   \ifx\@pdfmoddate\@empty
10269   \else
10270     \special{PDF: ModDate \@pdfmoddate}%
10271   \fi
10272   \special{PDF: Author \@pdfauthor}%
10273   \ifx\@pdfproducer\relax
10274   \else
10275     \special{PDF: Producer \@pdfproducer}%
10276   \fi
10277   \special{PDF: Subject \@pdfsubject}%
10278   \Hy@DisableOption{pdfauthor}%
10279   \Hy@DisableOption{pdftitle}%
10280   \Hy@DisableOption{pdfsubject}%
10281   \Hy@DisableOption{pdfcreator}%
10282   \Hy@DisableOption{pdfcreationdate}%
10283   \Hy@DisableOption{pdfmoddate}%
10284   \Hy@DisableOption{pdfproducer}%
10285   \Hy@DisableOption{pdfkeywords}%
10286   \Hy@DisableOption{pdftrapped}%
10287   \Hy@DisableOption{pdfinfo}%
10288 }
10289 \def\PDF@SetupDoc{%
10290   \ifx\@baseurl\@empty
10291   \else
10292     \special{PDF: Base \@baseurl}%
10293   \fi
10294   \ifx\@pdfpagescrop\@empty\else
10295     \special{PDF: BBox \@pdfpagescrop}%
10296   \fi
10297   \def\Hy@temp{}%
10298   \ifx\@pdfstartpage\@empty
10299   \else
10300     \ifx\@pdfstartview\@empty
10301     \else
10302       \edef\Hy@temp{%
10303         ,Page=\@pdfstartpage
10304         ,View=\@pdfstartview
10305       }%
10306     \fi
10307   \fi
10308   \edef\Hy@temp{%
10309     \noexpand\pdfmark{%
10310       pdfmark=/DOCVIEW,%
10311       PageMode=/\@pdfpagemode
10312     }\Hy@temp
10313   }%

```

```

10314 }%
10315 \Hy@temp
10316 \ifx\@pdfpagescrop\@empty
10317 \else
10318 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10319 \fi
10320 \edef\Hy@temp{%
10321 \ifHy@pdftoolbar\else /HideToolbar true\fi
10322 \ifHy@pdfmenubar\else /HideMenubar true\fi
10323 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10324 \ifHy@pdffitwindow /FitWindow true\fi
10325 \ifHy@pdfcenterwindow /CenterWindow true\fi
10326 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10327 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10328 \Hy@UseNameKey{Direction}\@pdfdirection
10329 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10330 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10331 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10332 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10333 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10334 \Hy@UseNameKey{Duplex}\@pdfduplex
10335 \ifx\@pdfpicktraybypdfsize\@empty
10336 \else
10337 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10338 \fi
10339 \ifx\@pdfprintpagerange\@empty
10340 \else
10341 /PrintPageRange[\@pdfprintpagerange]%
10342 \fi
10343 \ifx\@pdfnumcopies\@empty
10344 \else
10345 /NumCopies \@pdfnumcopies
10346 \fi
10347 }%
10348 \pdfmark{pdfmark=/PUT,%
10349 Raw={%
10350 \string{Catalog\string}<<%
10351 \ifx\Hy@temp\@empty
10352 \else
10353 /ViewerPreferences<<\Hy@temp>>%
10354 \fi
10355 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10356 \ifx\@pdflang\@empty
10357 \else
10358 /Lang(\@pdflang)%
10359 \fi
10360 >>%
10361 }%
10362 }%
10363 }
10364 </dviwindo>
10365 <*\dvipdfm | xetex>

```

## 47.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```
10366 \providecommand*\XR@ext}{pdf}
```

```

10367 \Hy@setbreaklinks{true}
10368 \def\HyPat@ObjRef{%
10369   @[\ ]+}%
10370 }
10371 \newsavebox{\pdfm@box}
10372 \def\@pdfm@mark#1{\special{pdf:#1}}
10373 \Hy@WrapperDef\@pdfm@dest#1{%
10374   \Hy@SaveLastskip
10375   \Hy@VerboseAnchor{#1}%
10376   \beginngroup
10377     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10378     \def\x{XYZ}%
10379     \ifx\x\@pdfview
10380       \def\x{XYZ @xpos @ypos null}%
10381     \else
10382       \def\x{FitH}%
10383       \ifx\x\@pdfview
10384         \def\x{FitH @ypos}%
10385       \else
10386         \def\x{FitBH}%
10387         \ifx\x\@pdfview
10388           \def\x{FitBH @ypos}%
10389         \else
10390           \def\x{FitV}%
10391           \ifx\x\@pdfview
10392             \def\x{FitV @xpos}%
10393           \else
10394             \def\x{FitBV}%
10395             \ifx\x\@pdfview
10396               \def\x{FitBV @xpos}%
10397             \else
10398               \def\x{Fit}%
10399               \ifx\x\@pdfview
10400                 \let\x\@pdfview
10401               \else
10402                 \def\x{FitB}%
10403                 \ifx\x\@pdfview
10404                   \let\x\@pdfview
10405                 \else
10406                   \def\x{FitR}%
10407                   \ifx\x\@pdfview
10408                     \Hy@Warning{'pdfview=FitR' is not supported}%
10409                     \def\x{XYZ @xpos @ypos null}%
10410                   \else
10411                     \@onelevel@sanitize\@pdfview
10412                     \Hy@Warning{%
10413                       Unknown value '\@pdfview' for pdfview%
10414                     }%
10415                     \def\x{XYZ @xpos @ypos null}%
10416                   \fi
10417                 \fi
10418               \fi
10419             \fi
10420           \fi
10421         \fi
10422       \fi
10423     \fi

```

```

10424 \pdfmark{dest (\Hy@pstringDest) [@thispage /\x]}%
10425 \endgroup
10426 \Hy@RestoreLastskip
10427 }
10428 \providecommand*\pdfview{XYZ}
10429 \providecommand*\pdfborder{0 0 1}
10430 \providecommand*\pdfborderstyle{}
10431 \def\hyper@anchor#1{%
10432 \pdfmark{dest{#1}}%
10433 }
10434 \def\hyper@anchorstart#1{%
10435 \Hy@activeanchortrue
10436 \pdfmark{dest{#1}}%
10437 }
10438 \def\hyper@anchorend{%
10439 \Hy@activeanchorfalse
10440 }
10441 \newcounter{Hy@AnnotLevel}
10442 \ifHy@ocgcolorlinks
10443 \def\OBJ@OCG@view{@OCG@view}%
10444 \pdfmark{%
10445 obj \OBJ@OCG@view <<%
10446 /Type/OCG%
10447 /Name(View)%
10448 /Usage<<%
10449 /Print<<%
10450 /PrintState/OFF%
10451 >>%
10452 /View<<%
10453 /ViewState/ON%
10454 >>%
10455 >>%
10456 >>%
10457 }%
10458 \pdfmark{close \OBJ@OCG@view}%
10459 \def\OBJ@OCG@print{@OCG@print}%
10460 \pdfmark{%
10461 obj \OBJ@OCG@print <<%
10462 /Type/OCG%
10463 /Name(Print)%
10464 /Usage<<%
10465 /Print<<%
10466 /PrintState/ON%
10467 >>%
10468 /View<<%
10469 /ViewState/OFF%
10470 >>%
10471 >>%
10472 >>%
10473 }%
10474 \pdfmark{close \OBJ@OCG@print}%
10475 \def\OBJ@OCGs{@OCGs}%
10476 \pdfmark{%
10477 obj \OBJ@OCGs [%
10478 \OBJ@OCG@view\space\OBJ@OCG@print
10479 ]%
10480 }%

```

```

10481 \@pdfm@mark{close \OBJ@OCGs}%
10482 \@pdfm@mark{%
10483   put @catalog <<%
10484     /OCProperties<<%
10485     /OCGs \OBJ@OCGs
10486     /D<<%
10487     /OFF[\OBJ@OCG@print]%
10488     /AS[%
10489       <<%
10490         /Event/View%
10491         /OCGs \OBJ@OCGs
10492         /Category[/View]%
10493       >>%
10494       <<%
10495         /Event/Print%
10496         /OCGs \OBJ@OCGs
10497         /Category[/Print]%
10498       >>%
10499       <<%
10500         /Event/Export%
10501         /OCGs \OBJ@OCGs
10502         /Category[/Print]%
10503       >>%
10504     ]%
10505   >>%
10506 >>%
10507 >>%
10508 }%
10509 \AtBeginShipout{%
10510   \setbox\AtBeginShipoutBox=\hbox{%
10511     \copy\AtBeginShipoutBox
10512     \@pdfm@mark{%
10513       put @resources <<%
10514         /Properties<<%
10515         /OCView \OBJ@OCG@view
10516         /OCPrint \OBJ@OCG@print
10517       >>%
10518     >>%
10519   }%
10520 }%
10521 }%
10522 \Hy@AtBeginDocument{%
10523   \def\Hy@colorlink#1{%
10524     \begingroup
10525     \ifHy@ocgcolorlinks
10526       \def\Hy@ocgcolor{#1}%
10527       \setbox0=\hbox\bgroup\color@begingroup
10528     \else
10529       \HyColor@UseColor#1%
10530     \fi
10531   }%
10532   \def\Hy@endcolorlink{%
10533     \ifHy@ocgcolorlinks
10534       \color@endgroup\egroup
10535     \mbox{%
10536       \@pdfm@mark{content /OC/OCPrint BDC}%
10537       \rlap{\copy0}%

```



```

10538      \@pdfm@mark{content EMC/OC/OCView BDC}%
10539      \begingroup
10540      \expandafter\HyColor@UseColor\Hy@ocgcolor
10541      \box0 %
10542      \endgroup
10543      \@pdfm@mark{content EMC}%
10544    }%
10545    \fi
10546  \endgroup
10547 }%
10548 }%
10549 \else
10550   \Hy@DisableOption{ocgcolorlinks}%
10551 \fi

10552 \def\Hy@BeginAnnot#1{%
10553   \stepcounter{Hy@AnnotLevel}%
10554   \ifnum\value{Hy@AnnotLevel}=\@ne
10555     #1%
10556   \fi
10557 }
10558 \def\Hy@endAnnot{%
10559   \ifnum\value{Hy@AnnotLevel}=\@ne
10560     \Hy@endcolorlink
10561     \@pdfm@mark{eann}%
10562   \fi
10563   \addtocounter{Hy@AnnotLevel}\m@ne
10564 }

10565 \def\Hy@undefinedname{UNDEFINED}
10566 \def\hyper@linkstart#1#2{%
10567   \Hy@VerboseLinkStart{#1}{#2}%
10568   \leavevmode
10569   \Hy@BeginAnnot{%
10570     \protected@edef\Hy@testname{#2}%
10571     \ifx\Hy@testname\@empty
10572       \Hy@Warning{%
10573         Empty destination name,\MessageBreak
10574         using '\Hy@undefinedname'%
10575       }%
10576       \let\Hy@testname\Hy@undefinedname
10577     \else
10578       \Hy@pstringdef\Hy@testname{%
10579         \expandafter\HyperDestNameFilter\expandafter{%
10580           \Hy@testname
10581         }%
10582       }%
10583     \fi
10584     \@pdfm@mark{%
10585       bann<<%
10586       /Type/Annot%
10587       /Subtype/Link%
10588       \ifHy@pdfa /F 4\fi
10589       \Hy@setpdfborder
10590       \expandafter\ifx\csname @#1bordercolor\endcsname\relax
10591       \else
10592         /C[\csname @#1bordercolor\endcsname]%
10593       \fi
10594       /A<<%

```

```

10595         /S/GoTo%
10596         /D(\Hy@testname)%
10597         \Hy@href@nextactionraw
10598     >>%
10599     >>%
10600 }%
10601 \expandafter\Hy@colorlink\csname @#1color\endcsname
10602 }%
10603 }
10604 \def\hyper@linkend{\Hy@EndAnnot}%
10605 \def\hyper@link#1#2#3{%
10606 \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10607 }
10608 \def\hyper@linkfile#1#2#3{%
10609 \leavevmode
10610 \Hy@BeginAnnot{%
10611 \def\Hy@pstringF{#2}%
10612 \Hy@CleanupFile\Hy@pstringF
10613 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10614 \Hy@pstringdef\Hy@pstringD{#3}%
10615 \Hy@MakeRemoteAction
10616 \@pdfm@mark{%
10617 bann<<%
10618 /Type/Annot%
10619 /Subtype/Link%
10620 \ifHy@pdfa /F 4\fi
10621 \Hy@setpdfborder
10622 \ifx\@filebordercolor\relax
10623 \else
10624 /C[\@filebordercolor]%
10625 \fi
10626 /A<<%
10627 /S/GoToR%
10628 /F(\Hy@pstringF)%
10629 /D%
10630 \ifx\#3\%
10631 [\Hy@href@page\@pdfremotestartview]%
10632 \else
10633 (\Hy@pstringD)%
10634 \fi
10635 \Hy@SetNewWindow
10636 \Hy@href@nextactionraw
10637 >>%
10638 >>%
10639 }%
10640 \Hy@colorlink\@filecolor
10641 }%
10642 #1\Hy@xspace@end
10643 \Hy@EndAnnot
10644 }
10645 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
10646 \leavevmode
10647 \Hy@BeginAnnot{%
10648 \Hy@pstringdef\Hy@pstringF{#1}%
10649 \Hy@pstringdef\Hy@pstringP{#3}%
10650 \@pdfm@mark{%
10651 bann<<%

```

```

10652      /Type/Annot%
10653      /Subtype/Link%
10654      \ifHy@pdfa /F 4\fi
10655      \Hy@setpdfborder
10656      \ifx\@runbordercolor\relax
10657      \else
10658      /C[\@runbordercolor]%
10659      \fi
10660      /A<<%
10661      /F(\Hy@pstringF)%
10662      /S/Launch%
10663      \Hy@SetNewWindow
10664      \ifx\#3\%
10665      \else
10666      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10667      \fi
10668      \Hy@href@nextactionraw
10669      >>%
10670      >>%
10671      }%
10672      \Hy@colorlink\@runcolor
10673      }%
10674      #2\Hy@xspace@end
10675      \Hy@EndAnnot
10676      }
10677      \def\hyper@linkurl#1#2{%
10678      \leavevmode
10679      \Hy@BeginAnnot{%
10680      \Hy@pstringdef\Hy@pstringURI{#2}%
10681      \@pdfm@mark{%
10682      bann<<%
10683      /Type/Annot%
10684      /Subtype/Link%
10685      \ifHy@pdfa /F 4\fi
10686      \Hy@setpdfborder
10687      \ifx\@urlbordercolor\relax
10688      \else
10689      /C[\@urlbordercolor]%
10690      \fi
10691      /A<<%
10692      /S/URI%
10693      /URI(\Hy@pstringURI)%
10694      \ifHy@href@ismap
10695      /IsMap true%
10696      \fi
10697      \Hy@href@nextactionraw
10698      >>%
10699      >>%
10700      }%
10701      \Hy@colorlink\@urlcolor
10702      }%
10703      #1\Hy@xspace@end
10704      \Hy@EndAnnot
10705      }
10706      \def\Acrobatmenu#1#2{%
10707      \Hy@Acrobatmenu{#1}{#2}{%
10708      \Hy@BeginAnnot{%

```

```

10709 \EdefEscapeName\Hy@temp@menu{#1}%
10710 \@pdfm@mark{%
10711   bann<<%
10712     /Type/Annot%
10713     /Subtype/Link%
10714     \ifHy@pdfa /F 4\fi
10715     \Hy@setpdfborder
10716     \ifx\@menubordercolor\relax
10717     \else
10718       /C[\@menubordercolor]%
10719     \fi
10720     /A<<%
10721     /S/Named%
10722     /N/\Hy@temp@menu
10723     \Hy@href@nextactionraw
10724     >>%
10725   >>%
10726 }%
10727 \Hy@colorlink\@menucolor
10728 }%
10729 #2\Hy@xspace@end
10730 \Hy@endAnnot
10731 }%
10732 }
10733 \ifx\@pdfproducer\relax
10734 \def\@pdfproducer{dvipdfm}%

```

Detect Xe<sub>TeX</sub>. However, but xdvipdfmx will overwrite it in the final PDF file.

```

10735 \begingroup\expandafter\expandafter\expandafter\endgroup
10736 \expandafter\ifx\csname XeTeXversion\endcsname\relax
10737 \else
10738 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10739 \fi
10740 \fi
10741 \def\PDF@FinishDoc{%
10742 \Hy@UseMaketitleInfos
10743 \HyInfo@GenerateAddons
10744 \@pdfm@mark{%
10745   docinfo<<%
10746     /Title(\@pdftitle)%
10747     /Subject(\@pdfsubject)%
10748     /Creator(\@pdfcreator)%
10749     \ifx\@pdfcreationdate\@empty
10750     \else
10751       /CreationDate(\@pdfcreationdate)%
10752     \fi
10753     \ifx\@pdfmoddate\@empty
10754     \else
10755       /ModDate(\@pdfmoddate)%
10756     \fi
10757     /Author(\@pdfauthor)%
10758     \ifx\@pdfproducer\relax
10759     \else
10760       /Producer(\@pdfproducer)%
10761     \fi
10762     /Keywords(\@pdfkeywords)%
10763     \ifx\@pdftrapped\@empty
10764     \else

```

```

10765     /Trapped/\@pdftrapped
10766     \fi
10767     \HyInfo@Addons
10768     >>%
10769 }%
10770 \Hy@DisableOption{pdfauthor}%
10771 \Hy@DisableOption{pdftitle}%
10772 \Hy@DisableOption{pdfsubject}%
10773 \Hy@DisableOption{pdfcreator}%
10774 \Hy@DisableOption{pdfcreationdate}%
10775 \Hy@DisableOption{pdfmoddate}%
10776 \Hy@DisableOption{pdfproducer}%
10777 \Hy@DisableOption{pdfkeywords}%
10778 \Hy@DisableOption{pdftrapped}%
10779 \Hy@DisableOption{pdfinfo}%
10780 }

10781 \def\PDF@SetupDoc{%
10782 \edef\Hy@temp{%
10783   \ifHy@pdftoolbar\else /HideToolbar true\fi
10784   \ifHy@pdfmenubar\else /HideMenubar true\fi
10785   \ifHy@pdfwindowui\else /HideWindowUI true\fi
10786   \ifHy@pdfwindow /FitWindow true\fi
10787   \ifHy@pdfcenterwindow /CenterWindow true\fi
10788   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10789   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10790   \Hy@UseNameKey{Direction}\@pdfdirection
10791   \Hy@UseNameKey{ViewArea}\@pdfviewarea
10792   \Hy@UseNameKey{ViewClip}\@pdfviewclip
10793   \Hy@UseNameKey{PrintArea}\@pdfprintarea
10794   \Hy@UseNameKey{PrintClip}\@pdfprintclip
10795   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10796   \Hy@UseNameKey{Duplex}\@pdfduplex
10797   \ifx\@pdfpicktraybypdfsize\@empty
10798   \else
10799     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10800   \fi
10801   \ifx\@pdfprintpagerange\@empty
10802   \else
10803     /PrintPageRange[\@pdfprintpagerange]%
10804   \fi
10805   \ifx\@pdfnumcopies\@empty
10806   \else
10807     /NumCopies \@pdfnumcopies
10808   \fi
10809 }%
10810 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10811 \@pdfm@mark{%
10812   docview<<%
10813     \ifx\@pdfstartpage\@empty
10814     \else
10815       \ifx\@pdfstartview\@empty
10816       \else
10817         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10818       \fi
10819     \fi
10820     \ifx\@baseurl\@empty
10821     \else

```

```

10822      /URI<</Base(\Hy@pstringB)>>%
10823      \fi
10824      /PageMode/\@pdfpagemode
10825      \ifx\Hy@temp\@empty
10826      \else
10827      /ViewerPreferences<<\Hy@temp>>%
10828      \fi
10829      \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10830      \ifx\@pdflang\@empty
10831      \else
10832      /Lang(\@pdflang)%
10833      \fi
10834      >>%
10835    }%
10836    \ifx\@pdfpagescrop\@empty
10837    \else
10838    \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}}%
10839    \fi
10840  }
10841  </dvipdfm | xetex>
10842  (*dvipdfm | xetex)

```

\hyper@pagetransition

```

10843 \def\hyper@pagetransition{%
10844   \ifx\@pdfpagetransition\relax
10845   \else
10846   \ifx\@pdfpagetransition\@empty
10847   \else
10848   \special{pdf:put @thispage %
10849     <</Trans<</S/\@pdfpagetransition>>>>%
10850   }%
10851   \fi
10852   \fi
10853 }

```

\hyper@pageduration

```

10854 \def\hyper@pageduration{%
10855   \ifx\@pdfpageduration\relax
10856   \else
10857   \ifx\@pdfpageduration\@empty
10858   \else
10859   \special{pdf:put @thispage %
10860     <</Dur \@pdfpageduration>>%
10861   }%
10862   \fi
10863   \fi
10864 }

```

\hyper@pagehidden

```

10865 \def\hyper@pagehidden{%
10866   \ifHy@useHidKey
10867   \special{pdf:put @thispage %
10868     <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10869   }%
10870   \fi
10871 }

```

```

10872 \g@addto@macro\Hy@EveryPageBoxHook{%
10873   \hyper@pagetransition
10874   \hyper@pageduration
10875   \hyper@pagehidden
10876 }
10877 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method `\pdfpagewidth` and `\pdfpageheight` for setting the paper size.

```

10878 < *dvipdfm>
10879 \AtBeginShipoutFirst{%
10880   \ifHy@setpagesize
10881     \begingroup
10882       \ifundefined{stockwidth}{%
10883         \ifdim\paperwidth>\z@
10884           \ifdim\paperheight>\z@
10885             \special{papersize=\the\paperwidth,\the\paperheight}%
10886           \fi
10887         \fi
10888       }{%
10889         \ifdim\stockwidth>\z@
10890           \ifdim\stockheight>\z@
10891             \special{papersize=\the\stockwidth,\the\stockheight}%
10892           \fi
10893         \fi
10894       }%
10895     \endgroup
10896   \fi
10897   \Hy@DisableOption{setpagesize}%
10898 }
10899 </dvipdfm>

```

## 47.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

10900 < *vtexhtml>
10901 \providecommand*\XR@ext}{htm}
10902 \RequirePackage{vtexhtml}
10903 \newif\if@Localurl
10904 \let\PDF@FinishDoc\ltx@empty
10905 \def\PDF@SetupDoc{%
10906   \ifx\@baseurl\@empty
10907     \else
10908       \special{!direct <base href="\@baseurl">}%
10909     \fi
10910 }
10911 \def\@urltype{url}
10912 \def\hyper@link#1#2#3{%
10913   \Hy@VerboseLinkStart{#1}{#2}%
10914   \leavevmode
10915   \special{!direct <a href=%
10916     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10917   #3\Hy@xspace@end
10918   \special{!direct </a>}%
10919 }
10920 \def\hyper@linkurl#1#2{%

```

```

10921 \begingroup
10922 \hyper@chars
10923 \leavevmode
10924 \MathBSuppress=1\relax
10925 \special{!direct <a href=%
10926 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}}%
10927 #1\Hy@xspace@end
10928 \MathBSuppress=0\relax
10929 \special{!direct </a>}}%
10930 \endgroup
10931 }
10932 \def\hyper@linkfile#1#2#3{%
10933 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\\##3\fi}%
10934 }
10935 \def\hyper@linkstart#1#2{%
10936 \Hy@VerboseLinkStart{#1}{#2}%
10937 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
10938 \@Localurltrue
10939 \special{!direct <a href=\hyper@quote#2\hyper@quote>}}%
10940 \else
10941 \@Localurlfalse
10942 \begingroup
10943 \hyper@chars
10944 \special{!aref \HyperDestNameFilter{#2}}}%
10945 \endgroup
10946 \fi
10947 }
10948 \def\hyper@linkend{%
10949 \if@Localurl
10950 \special{!endaref}}%
10951 \else
10952 \special{!direct </a>}}%
10953 \fi
10954 }
10955 \Hy@WrapperDef\hyper@anchorstart#1{%
10956 \Hy@SaveLastskip
10957 \Hy@VerboseAnchor{#1}%
10958 \begingroup
10959 \hyper@chars
10960 \special{!aname #1}}%
10961 \special{!direct <a name=%
10962 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
10963 \endgroup
10964 \Hy@activeanchortrue
10965 }
10966 \def\hyper@anchorend{%
10967 \special{!direct </a>}}%
10968 \Hy@activeanchorfalse
10969 \Hy@RestoreLastskip
10970 }
10971 \Hy@WrapperDef\hyper@anchor#1{%
10972 \Hy@SaveLastskip
10973 \Hy@VerboseAnchor{#1}%
10974 \begingroup
10975 \let\protect=\string
10976 \hyper@chars
10977 \leavevmode

```



```

10978 \special{!aname #1}%
10979 \special{!direct <a name=%
10980 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10981 \endgroup
10982 \Hy@activeanchortrue
10983 \bgroup\anchor@spot\egroup
10984 \special{!direct </a>}%
10985 \Hy@activeanchorfalse
10986 \Hy@RestoreLastskip
10987 }
10988 \def\@Form[#1]{%
10989 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10990 }
10991 \let\@endForm\ltx@empty
10992 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10993 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10994 }
10995 \def\@TextField[#1]#2{% parameters, label
10996 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10997 }
10998 \def\@CheckBox[#1]#2{% parameters, label
10999 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
11000 }
11001 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11002 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
11003 }
11004 \def\@PushButton[#1]#2{% parameters, label
11005 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
11006 }
11007 \def\@Reset[#1]#2{%
11008 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
11009 }
11010 \def\@Submit[#1]#2{%
11011 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
11012 }
11013 </vtexthtml>
11014 <*vtex>

```

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

```

11015 \ifx\mediaheight\@undefined
11016 \else
11017 \ifx\mediaheight\relax
11018 \else
11019 \ifHy@setpagesize
11020 \providecommand*\VTeXInitMediaSize{%
11021 \ltx@ifundefined{stockwidth}{%
11022 \ifdim\paperheight>0pt %
11023 \setlength\mediaheight\paperheight
11024 \fi
11025 \ifdim\paperheight>0pt %
11026 \setlength\mediawidth\paperwidth
11027 \fi
11028 }{%
11029 \ifdim\stockheight>0pt %
11030 \setlength\mediaheight\stockheight

```

```

11031         \fi
11032         \ifdim\stockwidth>0pt %
11033             \setlength\mediawidth\stockwidth
11034         \fi
11035     }%
11036 }%
11037 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
11038 \fi
11039 \Hy@DisableOption{setpagesize}%
11040 \fi
11041 \fi

Older versions of VTeX require xyz in lower case.

11042 \providecommand*\@pdfview{xyz}
11043 \providecommand*\@pdfborder{0 0 1}
11044 \providecommand*\@pdfborderstyle{}
11045 \let\CurrentBorderColor\@linkbordercolor
11046 \Hy@WrapperDef\hyper@anchor#1{%
11047     \Hy@SaveLastskip
11048     \Hy@VerboseAnchor{#1}%
11049     \begingroup
11050         \let\protect=\string
11051         \hyper@chars
11052         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
11053     \endgroup
11054     \Hy@activeanchortrue
11055     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11056     \Hy@activeanchorfalse
11057     \Hy@RestoreLastskip
11058 }
11059 \Hy@WrapperDef\hyper@anchorstart#1{%
11060     \Hy@SaveLastskip
11061     \Hy@VerboseAnchor{#1}%
11062     \begingroup
11063         \hyper@chars
11064         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
11065     \endgroup
11066     \Hy@activeanchortrue
11067 }
11068 \def\hyper@anchorend{%
11069     \Hy@activeanchorfalse
11070     \Hy@RestoreLastskip
11071 }
11072 \def\@urltype{url}
11073 \def\Hy@undefinedname{UNDEFINED}
11074 \def\hyper@linkstart#1#2{%
11075     \Hy@VerboseLinkStart{#1}{#2}%
11076     \Hy@pstringdef\Hy@pstringURI{#2}%
11077     \expandafter\Hy@colorlink\csname @#1color\endcsname
11078     \ltx@ifundefined{#1bordercolor}{%
11079         \let\CurrentBorderColor\relax
11080     }{%
11081         \edef\CurrentBorderColor{%
11082             \csname @#1bordercolor\endcsname
11083         }%
11084     }%
11085     \def\Hy@tempa{#1}%
11086     \ifx\Hy@tempa\@urltype

```

```

11087 \special{!%
11088   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11089     \ifHy@href@ismap
11090       /IsMap true%
11091     \fi
11092     \Hy@href@nextactionraw
11093   >,%
11094   a=<%
11095     \ifHy@pdfa /F 4\fi
11096     \Hy@setpdfborder
11097     \ifx\CurrentBorderColor\relax
11098     \else
11099       /C [\CurrentBorderColor]%
11100     \fi
11101   >%
11102 }%
11103 \else
11104 \protected@edef\Hy@testname{#2}%
11105 \ifx\Hy@testname\@empty
11106 \Hy@Warning{%
11107   Empty destination name,\MessageBreak
11108   using '\Hy@undefinedname'%
11109 }%
11110 \let\Hy@testname\Hy@undefinedname
11111 \fi
11112 \special{!%
11113   aref \expandafter\HyperDestNameFilter
11114     \expandafter{\Hy@testname};%
11115   a=<%
11116     \ifHy@pdfa /F 4\fi
11117     \Hy@setpdfborder
11118     \ifx\CurrentBorderColor\relax
11119     \else
11120       /C [\CurrentBorderColor]%
11121     \fi
11122   >%
11123 }%
11124 \fi
11125 }
11126 \def\hyper@linkend{%
11127 \special{!endaref}%
11128 \Hy@endcolorlink
11129 }
11130 \def\hyper@linkfile#1#2#3{%
11131 \leavevmode
11132 \def\Hy@pstringF{#2}%
11133 \Hy@CleanupFile\Hy@pstringF
11134 \special{!%
11135   aref <%
11136     \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
11137   f=\Hy@pstringF>#3;%
11138   a=<%
11139     \ifHy@pdfa /F 4\fi
11140     \Hy@setpdfborder
11141     \ifx\@filebordercolor\relax
11142     \else
11143       /C [\@filebordercolor]%

```

```

11144 \fi
11145 >%
11146 }%
11147 \Hy@colorlink\@filecolor
11148 #1\Hy@xspace@end
11149 \Hy@endcolorlink
11150 \special{!endaref}%
11151 }
11152 \def\hyper@linkurl#1#2{%
11153 \begingroup
11154 \Hy@pstringdef\Hy@pstringURI{#2}%
11155 \hyper@chars
11156 \leavevmode
11157 \special{!%
11158 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11159 \ifHy@href@ismap
11160 /IsMap true%
11161 \fi
11162 \Hy@href@nextactionraw
11163 >;%
11164 a=<%
11165 \ifHy@pdfa /F 4\fi
11166 \Hy@setpdfborder
11167 \ifx\@urlbordercolor\relax
11168 \else
11169 /C [\@urlbordercolor]%
11170 \fi
11171 >%
11172 }%
11173 \Hy@colorlink\@urlcolor
11174 #1\Hy@xspace@end
11175 \Hy@endcolorlink
11176 \special{!endaref}%
11177 \endgroup
11178 }
11179 \def\hyper@link#1#2#3{%
11180 \Hy@VerboseLinkStart{#1}{#2}%
11181 \ltx@ifundefined{@#1bordercolor}{%
11182 \let\CurrentBorderColor\relax
11183 }{%
11184 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
11185 }%
11186 \leavevmode
11187 \protected@edef\Hy@testname{#2}%
11188 \ifx\Hy@testname\@empty
11189 \Hy@Warning{%
11190 Empty destination name,\MessageBreak
11191 using '\Hy@undefinedname'%
11192 }%
11193 \let\Hy@testname\Hy@undefinedname
11194 \fi
11195 \special{!%
11196 aref \expandafter\HyperDestNameFilter
11197 \expandafter{\Hy@testname};%
11198 a=<%
11199 \ifHy@pdfa /F 4\fi
11200 \Hy@setpdfborder

```

```

11201 \ifx\CurrentBorderColor\relax
11202 \else
11203 /C [\CurrentBorderColor]%
11204 \fi
11205 >%
11206 }%
11207 \expandafter
11208 \Hy@colorlink\csname @#1color\endcsname
11209 #3\Hy@xspace@end
11210 \Hy@endcolorlink
11211 \special{!endaref}%
11212 }
11213 \def\hyper@image#1#2{%
11214 \hyper@linkurl{#2}{#1}%
11215 }
11216 \def\@hyper@launch run:#1\#2#3{%
11217 \Hy@pstringdef\Hy@pstringF{#1}%
11218 \Hy@pstringdef\Hy@pstringP{#3}%
11219 \leavevmode
11220 \special{!aref %
11221 <u=%
11222 /Type/Action%
11223 /S/Launch%
11224 /F(\Hy@pstringF)%
11225 \Hy@SetNewWindow
11226 \ifx\#3\%
11227 \else
11228 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
11229 \fi
11230 \Hy@href@nextactionraw
11231 >,%
11232 a=<%
11233 \ifHy@pdfa /F 4\fi
11234 \Hy@setpdfborder
11235 \ifx\@runbordercolor\relax
11236 \else
11237 /C[\@runbordercolor]%
11238 \fi
11239 >%
11240 }%
11241 \Hy@colorlink\@runcolor
11242 #2\Hy@xspace@end
11243 \Hy@endcolorlink
11244 \special{!endaref}%
11245 }
11246 \def\Acrobatmenu#1#2{%
11247 \EdefEscapeName\Hy@temp@menu{#1}%
11248 \Hy@Acrobatmenu{#1}{#2}{%
11249 \special{!%
11250 aref <u=/S /Named /N /\Hy@temp@menu>;%
11251 a=<%
11252 \ifHy@pdfa /F 4\fi
11253 \Hy@setpdfborder
11254 \ifx\@menubordercolor\relax
11255 \else
11256 /C[\@menubordercolor]%
11257 \fi

```

```

11258 >%
11259 }%
11260 \Hy@colorlink\@menucolor
11261 #2\Hy@xspace@end
11262 \Hy@endcolorlink
11263 \special{!endaref}%
11264 }%
11265 }

```

The following code (transition effects) is made by Alex Kostin.  
The code below makes sense for  $\text{\TeX}$  7.02 or later.

Please never use `\ifundefined{VTeXversion}{..}{..}` *globally*.

```

11266 \ifnum\Hy@VTeXversion<702 %
11267 \else
11268 \def\hyper@pagetransition{%
11269 \ifx\@pdfpagetransition\relax
11270 \else
11271 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

11272 \else
11273 \hvtex@parse@trans\@pdfpagetransition
11274 \fi
11275 \fi
11276 }%

```

I have to write an “honest” parser to convert raw PDF code into  $\text{\TeX}$   
`\special.` (AVK)

Syntax of  $\text{\TeX}$  `\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:

```

11277 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
11278 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
11279 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
11280 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
11281 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
11282 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
11283 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

11284 \def\hvtex@par@dimension{/Dm}%
11285 \def\hvtex@par@direction{/Di}%

```

```

11286 \def\hvtex@par@duration{/D}%
11287 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

11288 \def\hvtex@gettoken{%
11289   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
11290 }%

```

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

```

11291 \def\hvtex@gettoken@#1 #2\@nil{%
11292   \edef\hvtex@token{#1}%
11293   \edef\hvtex@buffer{#2}%
11294 }%
11295 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

11296 \let\hvtex@trans@code\@empty
11297 \let\hvtex@param@dimension\@empty
11298 \let\hvtex@param@direction\@empty
11299 \let\hvtex@param@duration\@empty
11300 \let\hvtex@param@motion\@empty
11301 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

11302 \hvtex@gettoken
11303 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

11304 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

11305 \else
11306   \hvtex@gettoken
11307 \fi
11308 \fi
11309 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

11310 \hvtex@trans@params
11311 }%

```

Reentrant macro to parse optional parameters.

```

11312 \def\hvtex@trans@params{%
11313   \ifx\hvtex@buffer\@empty
11314   \else
11315     \hvtex@gettoken
11316     \let\hvtex@trans@par\hvtex@token
11317     \ifx\hvtex@buffer\@empty
11318     \else
11319       \hvtex@gettoken
11320       \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. V<sub>T</sub><sub>E</sub>X special takes it in milliseconds.

```

11321       \let\hvtex@param@duration\hvtex@token
11322       \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

11323       \expandafter\edef\expandafter\hvtex@param@motion
11324       \expandafter{\expandafter\@gobble\hvtex@token}%
11325       \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```
11326      \expandafter\edef\expandafter\hvtex@param@dimension
11327      \expandafter{\expandafter\@gobble\hvtex@token}%
11328      \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).

```
11329      \let\hvtex@param@direction\hvtex@token
11330      \fi\fi\fi\fi
11331      \fi
11332      \fi
11333      \ifx\hvtex@buffer\@empty
11334      \let\next\hvtex@produce@trans
11335      \else
11336      \let\next\hvtex@trans@params
11337      \fi
11338      \next
11339 }%
```

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

```
11340 \def\hvtex@produce@trans{%
11341   \let\vtex@trans@special\@empty
11342   \if S\hvtex@trans@code
11343     \edef\vtex@trans@special{\hvtex@trans@code
11344       \hvtex@param@dimension\hvtex@param@motion}%
11345   \else\if B\hvtex@trans@code
11346     \edef\vtex@trans@special{%
11347       \hvtex@trans@code\hvtex@param@dimension
11348     }%
11349   \else\if X\hvtex@trans@code
11350     \edef\vtex@trans@special{%
11351       \hvtex@trans@code\hvtex@param@motion
11352     }%
11353   \else\if W\hvtex@trans@code
11354     \edef\vtex@trans@special{%
11355       \hvtex@trans@code\hvtex@param@direction
11356     }%
11357   \else\if D\hvtex@trans@code
11358     \let\vtex@trans@special\hvtex@trans@code
11359   \else\if R\hvtex@trans@code
11360     \let\vtex@trans@special\hvtex@trans@code
11361   \else\if G\hvtex@trans@code
11362     \edef\vtex@trans@special{%
11363       \hvtex@trans@code\hvtex@param@direction
11364     }%
11365   \fi\fi\fi\fi\fi\fi
11366   \ifx\vtex@trans@special\@empty
11367   \else
11368     \ifx\hvtex@param@duration\@empty
11369     \else
11370       \setlength{\dimen@}{\hvtex@param@duration\p@}%
```

I'm not guilty of possible overflow.

```
11371     \multiply\dimen@\@m
11372     \edef\vtex@trans@special{%
11373       \vtex@trans@special,\strip@pt\dimen@
11374     }%
```



```

11375   \fi
        And all the mess is just for this.
11376   \special{!trans \vtx@trans@special}%
11377   \fi
11378 }%

11379 \def\hyper@pageduration{%
11380   \ifx\@pdfpageduration\relax
11381   \else
11382     \ifx\@pdfpageduration\@empty
11383       \special{!duration-}%
11384     \else
11385       \special{!duration \@pdfpageduration}%
11386     \fi
11387   \fi
11388 }%

11389 \def\hyper@pagehidden{%
11390   \ifHy@useHidKey
11391     \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
11392   \fi
11393 }%

11394 \g@addto@macro\Hy@EveryPageBoxHook{%
11395   \hyper@pagetransition
11396   \hyper@pageduration
11397   \hyper@pagehidden
11398 }%
11399 \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

```

11400 \ifx\@pdfproducer\relax
11401   \def\@pdfproducer{VTeX}%
11402   \ifnum\Hy@VTeXversion>\z@
11403     \count@\VTeXversion
11404     \divide\count@ 100 %
11405     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
11406     \multiply\count@ -100 %
11407     \advance\count@\VTeXversion
11408     \edef\@pdfproducer{%
11409       \@pdfproducer
11410       .\ifnum\count@<10 0\fi\the\count@
11411       \ifx\VTeXOS\@undefined\else
11412         \ifnum\VTeXOS>0 %
11413           \ifnum\VTeXOS<6 %
11414             \space(
11415             \ifcase\VTeXOS
11416             \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
11417             \fi
11418           )%

```

```

11419     \fi
11420     \fi
11421     \fi
11422     ,\space
11423     \ifnum\OpMode=\@ne PDF\else PS\fi
11424     \space backend%
11425     \ifx\gexmode\@undefined\else
11426     \ifnum\gexmode>\z@\space with GeX\fi
11427     \fi
11428 }%
11429 \fi
11430 \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).

```

11431 \def\PDF@SetupDoc{%
11432   \ifx\@pdfpagescrop\@empty
11433   \else
11434     \special{!pdfinfo b=<\@pdfpagescrop>}%
11435   \fi
11436   \ifx\@pdfstartpage\@empty
11437   \else
11438     \ifx\@pdfstartview\@empty
11439     \else
11440       \special{!onopen Page\@pdfstartpage}%
11441     \fi
11442   \fi
11443   \special{!pdfinfo p=</\@pdfpagemode>}%
11444   \ifx\@baseurl\@empty
11445   \else
11446     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
11447   \fi
11448   \special{!pdfinfo v=<<<%
11449     \ifHy@pdftoolbar\else /HideToolbar true\fi
11450     \ifHy@pdfmenubar\else /HideMenubar true\fi
11451     \ifHy@pdfwindowui\else /HideWindowUI true\fi
11452     \ifHy@pdfwindow /FitWindow true\fi
11453     \ifHy@pdfcenterwindow /CenterWindow true\fi
11454     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11455     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11456     \Hy@UseNameKey{Direction}\@pdfdirection
11457     \Hy@UseNameKey{ViewArea}\@pdfviewarea
11458     \Hy@UseNameKey{ViewClip}\@pdfviewclip
11459     \Hy@UseNameKey{PrintArea}\@pdfprintarea
11460     \Hy@UseNameKey{PrintClip}\@pdfprintclip

```

```

11461 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11462 \Hy@UseNameKey{Duplex}\@pdfduplex
11463 \ifx\@pdfpicktraybypdfsize\@empty
11464 \else
11465 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11466 \fi
11467 \ifx\@pdfprintpagerange\@empty
11468 \else
11469 /PrintPageRange[\@pdfprintpagerange]%
11470 \fi
11471 \ifx\@pdfnumcopies\@empty
11472 \else
11473 /NumCopies \@pdfnumcopies
11474 \fi
11475 >>>}%
11476 \ifx\@pdfpagelayout\@empty
11477 \else
11478 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
11479 \fi
11480 }%
11481 \HyInfo@AddonUnsupportedtrue
11482 \define@key{Hyp}{pdfcreationdate}{%
11483 \Hy@Warning{%
11484 VTeX does not support pdfcreationdate.\MessageBreak
11485 Therefore its setting is ignored%
11486 }%
11487 }
11488 \define@key{Hyp}{pdfmoddate}{%
11489 \Hy@Warning{%
11490 VTeX does not support pdfmoddate.\MessageBreak
11491 Therefore its setting is ignored%
11492 }%
11493 }
11494 \def\PDF@FinishDoc{%
11495 \Hy@UseMaketitleInfos
11496 \HyInfo@TrappedUnsupported
11497 \special{!pdfinfo a=<\@pdfauthor>}%
11498 \special{!pdfinfo t=<\@pdftitle>}%
11499 \special{!pdfinfo s=<\@pdfsubject>}%
11500 \special{!pdfinfo c=<\@pdfcreator>}%
11501 \ifx\@pdfproducer\relax
11502 \else
11503 \special{!pdfinfo r=<\@pdfproducer>}%
11504 \fi
11505 \special{!pdfinfo k=<\@pdfkeywords>}%
11506 \Hy@DisableOption{pdfauthor}%
11507 \Hy@DisableOption{pdftitle}%
11508 \Hy@DisableOption{pdfsubject}%
11509 \Hy@DisableOption{pdfcreator}%
11510 \Hy@DisableOption{pdfcreationdate}%
11511 \Hy@DisableOption{pdfmoddate}%
11512 \Hy@DisableOption{pdfproducer}%
11513 \Hy@DisableOption{pdfkeywords}%
11514 \Hy@DisableOption{pdftrapped}%
11515 \Hy@DisableOption{pdfinfo}%
11516 }
11517 </vtex>

```

## 47.7 Fix for Adobe bug number 466320

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

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

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

```
11518 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%  
11519 <package>\providecommand*\Hy@DistillerDestFix{}%  
11520 <*pdfmark | dviwindo>  
11521 \def\Hy@DistillerDestFix{%  
11522   \begingroup  
11523     \let\x\literalps@out
```

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

```
11524   \ifnum \@ifundefined{OpMode}{0}{}%  
11525     \@ifundefined{gexmode}{0}{}%  
11526     \ifnum\gexmode>0 \OpMode\else 0\fi  
11527   }>1 %  
11528   \def\x##1{%  
11529     \immediate\special{!=##1}%  
11530   }%  
11531   \fi  
11532   \x{%  
11533     /product where{%  
11534       pop %  
11535       product(Distiller)search{%  
11536         pop pop pop %  
11537         version(.)search{%  
11538           exch pop exch pop%  
11539           (3011)eq{%  
11540             gsave %  
11541             newpath 0 0 moveto closepath clip%  
11542             /Courier findfont 10 scalefont setfont %  
11543             72 72 moveto(.).show %  
11544             grestore%  
11545           }if%  
11546           }{pop}ifelse%  
11547           }{pop}ifelse%  
11548         }if%  
11549       }%  
11550     \endgroup  
11551   }  
11552 </pdfmark | dviwindo>
```

## 47.8 Direct pdfmark support

Drivers that load `pdfmark.def` have to provide the correct macro definitions of

|                             |  |
|-----------------------------|--|
| <code>\@pdfproducer</code>  | for document information                       |
| <code>\literalps@out</code> | PostScript output                              |
| <code>\headerps@out</code>  | 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                              |

```

11553 (*pdfmark)
11554 \Hy@breaklinks@unsupported
11555 \def\HyPat@ObjRef{%
11556   \[~{}]+\}%
11557 }
11558 \Hy@WrapperDef\hyper@anchor#1{%
11559   \Hy@SaveLastskip
11560   \Hy@VerboseAnchor{#1}%
11561   \begingroup
11562     \pdfmark[\anchor@spot]{%
11563       pdfmark=/DEST,%
11564       linktype=anchor,%
11565       View=/\@pdfview \@pdfviewparams,%
11566       DestAnchor={#1}%
11567     }%
11568   \endgroup
11569   \Hy@RestoreLastskip
11570 }
11571 \ltx@ifundefined{hyper@anchorstart}{}{\endinput}
11572 \Hy@WrapperDef\hyper@anchorstart#1{%
11573   \Hy@SaveLastskip
11574   \Hy@VerboseAnchor{#1}%
11575   \literalps@out{H.S}%
11576   \Hy@AllowHyphens
11577   \xdef\hyper@currentanchor{#1}%
11578   \Hy@activeanchortrue
11579 }
11580 \def\hyper@anchorend{%
11581   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11582   \pdfmark{%
11583     pdfmark=/DEST,%
11584     linktype=anchor,%
11585     View=/\@pdfview \@pdfviewparams,%
11586     DestAnchor=\hyper@currentanchor,%
11587   }%
11588   \Hy@activeanchorfalse
11589   \Hy@RestoreLastskip
11590 }
11591 \def\hyper@linkstart#1#2{%
11592   \Hy@VerboseLinkStart{#1}{#2}%
11593   \ifHy@breaklinks
11594   \else
11595     \leavevmode
11596     \ifmmode
11597       \def\Hy@LinkMath{$}%
11598     \else
11599       \let\Hy@LinkMath\ltx@empty
11600     \fi
11601     \Hy@SaveSpaceFactor
11602     \hbox\bgroup

```

```

11603 \Hy@RestoreSpaceFactor
11604 \Hy@LinkMath
11605 \fi
11606 \expandafter\Hy@colorlink\csname @#1color\endcsname
11607 \literalps@out{H.S}%
11608 \Hy@AllowHyphens
11609 \xdef\hyper@currentanchor{#2}%
11610 \gdef\hyper@currentlinktype{#1}%
11611 }
11612 \def\hyper@linkend{%
11613 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11614 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11615 \let\Hy@tempcolor\relax
11616 }{%
11617 \edef\Hy@tempcolor{%
11618 \csname @\hyper@currentlinktype bordercolor\endcsname
11619 }%
11620 }%
11621 \pdfmark{%
11622 pdfmark=/ANN,%
11623 linktype=link,%
11624 Subtype=/Link,%
11625 PDFAFlags=4,%
11626 Dest=\hyper@currentanchor,%
11627 AcroHighlight=\@pdfhighlight,%
11628 Border=\@pdfborder,%
11629 BorderStyle=\@pdfborderstyle,%
11630 Color=\Hy@tempcolor,%
11631 Raw=H.B%
11632 }%
11633 \Hy@endcolorlink
11634 \ifHy@breaklinks
11635 \else
11636 \Hy@LinkMath
11637 \Hy@SaveSpaceFactor
11638 \egroup
11639 \Hy@RestoreSpaceFactor
11640 \fi
11641 }

```

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.

```

11642 \begingroup
11643 \catcode'P=12 %
11644 \catcode'T=12 %
11645 \lowercase{\endgroup
11646 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11647 }
11648 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

11649 \def\hyper@pagetransition{%
11650 \ifx\@pdfpagetransition\relax
11651 \else
11652 \ifx\@pdfpagetransition\@empty
11653 % 1. Does an old entry have to be deleted?

```

```

11654 % 2. If 1=yes, how to delete?
11655 \else
11656 \pdfmark{%
11657 pdfmark=/PUT,%
11658 Raw={%
11659 \string{ThisPage\string}%
11660 <</Trans << /S /\@pdfpagetransition\space >> >>%
11661 }%
11662 }%
11663 \fi
11664 \fi
11665 }

```

\hyper@pageduration

```

11666 \def\hyper@pageduration{%
11667 \ifx\@pdfpageduration\relax
11668 \else
11669 \ifx\@pdfpageduration\@empty
11670 % 1. Does an old entry have to be deleted?
11671 % 2. If 1=yes, how to delete?
11672 \else
11673 \pdfmark{%
11674 pdfmark=/PUT,%
11675 Raw={%
11676 \string{ThisPage\string}%
11677 <</Dur \@pdfpageduration>>%
11678 }%
11679 }%
11680 \fi
11681 \fi
11682 }

```

\hyper@pagehidden

```

11683 \def\hyper@pagehidden{%
11684 \ifHy@useHidKey
11685 \pdfmark{%
11686 pdfmark=/PUT,%
11687 Raw={%
11688 \string{ThisPage\string}%
11689 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11690 }%
11691 }%
11692 \fi
11693 }

```

```

11694 \g@addto@macro\Hy@EveryPageBoxHook{%
11695 \hyper@pagetransition
11696 \hyper@pageduration
11697 \hyper@pagehidden
11698 }

```

```

11699 \def\hyper@image#1#2{%
11700 \hyper@linkurl{#2}{#1}%
11701 }
11702 \def\Hy@undefinedname{UNDEFINED}
11703 \def\hyper@link#1#2#3{%
11704 \Hy@VerboseLinkStart{#1}{#2}%
11705 \ltx@ifundefined{@#1bordercolor}{%

```

```

11706 \let\Hy@tempcolor\relax
11707 }{%
11708 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11709 }%
11710 \begingroup
11711 \protected@edef\Hy@testname{#2}%
11712 \ifx\Hy@testname\@empty
11713 \Hy@Warning{%
11714 Empty destination name,\MessageBreak
11715 using '\Hy@undefinedname'%
11716 }%
11717 \let\Hy@testname\Hy@undefinedname
11718 \fi
11719 \pdfmark[{#3}]{%
11720 Color=\Hy@tempcolor,%
11721 linktype={#1},%
11722 AcroHighlight=\@pdfhighlight,%
11723 Border=\@pdfborder,%
11724 BorderStyle=\@pdfborderstyle,%
11725 pdfmark=/ANN,%
11726 Subtype=/Link,%
11727 PDFAFlags=4,%
11728 Dest=\Hy@testname
11729 }%
11730 \endgroup
11731 }
11732 \newtoks\pdf@docset
11733 \def\PDF@FinishDoc{%
11734 \Hy@UseMaketitleInfos
11735 \Hy@Info@GenerateAddons
11736 \let\Hy@temp\@empty
11737 \ifx\@pdfcreationdate\@empty
11738 \else
11739 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11740 \fi
11741 \ifx\@pdfmoddate\@empty
11742 \else
11743 \expandafter\def\expandafter\Hy@temp\expandafter{%
11744 \Hy@temp
11745 ModDate=\@pdfmoddate,%
11746 }%
11747 \fi
11748 \ifx\@pdfproducer\relax
11749 \else
11750 \expandafter\def\expandafter\Hy@temp\expandafter{%
11751 \Hy@temp
11752 Producer=\@pdfproducer,%
11753 }%
11754 \fi
11755 \expandafter
11756 \pdfmark\expandafter{%
11757 \Hy@temp
11758 pdfmark=/DOCINFO,%
11759 Title=\@pdftitle,%
11760 Subject=\@pdfsubject,%
11761 Creator=\@pdfcreator,%
11762 Author=\@pdfauthor,%

```



```

11763     Keywords=\@pdfkeywords,%
11764     Trapped=\@pdftrapped
11765 }%
11766 \ifx\HyInfo@Addons\@empty
11767 \else
11768     \pdfmark{%
11769         pdfmark=/DOCINFO,%
11770         Raw={\HyInfo@Addons}%
11771     }%
11772 \fi
11773 \Hy@DisableOption{pdfauthor}%
11774 \Hy@DisableOption{pdftitle}%
11775 \Hy@DisableOption{pdfsubject}%
11776 \Hy@DisableOption{pdfcreator}%
11777 \Hy@DisableOption{pdfcreationdate}%
11778 \Hy@DisableOption{pdfmoddate}%
11779 \Hy@DisableOption{pdfproducer}%
11780 \Hy@DisableOption{pdfkeywords}%
11781 \Hy@DisableOption{pdftrapped}%
11782 \Hy@DisableOption{pdfinfo}%
11783 }
11784 \def\PDF@SetupDoc{%
11785     \def\Hy@temp{}%
11786     \ifx\@pdfstartpage\@empty
11787     \else
11788         \ifx\@pdfstartview\@empty
11789         \else
11790             \edef\Hy@temp{%
11791                 ,Page=\@pdfstartpage
11792                 ,View=\@pdfstartview
11793             }%
11794         \fi
11795     \fi
11796     \edef\Hy@temp{%
11797         \noexpand\pdfmark{%
11798             pdfmark=/DOCVIEW,%
11799             PageMode=/\@pdfpagemode
11800         }\Hy@temp
11801     }%
11802 }%
11803 \Hy@temp
11804 \ifx\@pdfpagescrop\@empty
11805 \else
11806     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11807 \fi
11808 \edef\Hy@temp{%
11809     \ifHy@pdftoolbar\else /HideToolbar true\fi
11810     \ifHy@pdfmenubar\else /HideMenubar true\fi
11811     \ifHy@pdfwindowui\else /HideWindowUI true\fi
11812     \ifHy@pdfwindow /FitWindow true\fi
11813     \ifHy@pdfcenterwindow /CenterWindow true\fi
11814     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11815     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11816     \Hy@UseNameKey{Direction}\@pdfdirection
11817     \Hy@UseNameKey{ViewArea}\@pdfviewarea
11818     \Hy@UseNameKey{ViewClip}\@pdfviewclip
11819     \Hy@UseNameKey{PrintArea}\@pdfprintarea

```

```

11820 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11821 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11822 \Hy@UseNameKey{Duplex}\@pdfduplex
11823 \ifx\@pdfpicktraybypdfsize\@empty
11824 \else
11825 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11826 \fi
11827 \ifx\@pdfprintpagerange\@empty
11828 \else
11829 /PrintPageRange[\@pdfprintpagerange]%
11830 \fi
11831 \ifx\@pdfnumcopies\@empty
11832 \else
11833 /NumCopies \@pdfnumcopies
11834 \fi
11835 }%
11836 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11837 \pdfmark{%
11838 pdfmark=/PUT,%
11839 Raw={%
11840 \string{Catalog\string}<<%
11841 \ifx\Hy@temp\@empty
11842 \else
11843 /ViewerPreferences<<\Hy@temp>>%
11844 \fi
11845 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11846 \ifx\@pdflang\@empty
11847 \else
11848 /Lang(\@pdflang)%
11849 \fi
11850 \ifx\@baseurl\@empty
11851 \else
11852 /URI<</Base(\Hy@pstringB)>>%
11853 \fi
11854 >>%
11855 }%
11856 }%
11857 }
11858 \pdfmark
11859 \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.

```

11860 \newif\ifHy@pdfmarkerror
11861 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
11862 \def\pdfmark@[#1]#2{%
11863 \Hy@pdfmarkerrorfalse
11864 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11865 \@processme
11866 \let\pdf@type\relax
11867 \let\pdf@objdef\ltx@empty
11868 \kvsetkeys{PDF}{#2}%
11869 \ifHy@pdfmarkerror

```

```

11870 \else
11871 \ifx\pdf@type\relax
11872 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11873 \ifx\#1\%
11874 \else
11875 \pdf@rect{#1}%
11876 \fi
11877 \else
11878 \ifx\#1\%
11879 \literalps@out{%
11880 [%
11881 \ifx\pdf@objdef\ltx@empty
11882 \else
11883 /_objdef\string{\pdf@objdef\string}%
11884 \fi
11885 \the\pdf@toks\space\pdf@type\space pdfmark%
11886 }%
11887 \else
11888 \ltx@ifundefined{@\pdf@linktype color}{%
11889 \Hy@colorlink\@linkcolor
11890 }{%
11891 \expandafter\Hy@colorlink
11892 \csname @\pdf@linktype color\endcsname
11893 }%
11894 \pdf@rect{#1}%
11895 \literalps@out{%
11896 [%
11897 \ifx\pdf@objdef\ltx@empty
11898 \else
11899 /_objdef\string{\pdf@objdef\string}%
11900 \fi
11901 \the\pdf@toks\space\pdf@type\space pdfmark%
11902 }%
11903 \Hy@endcolorlink
11904 \fi
11905 \fi
11906 \fi
11907 }

```

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}

```

```

11908 \newsavebox{\pdf@box}
11909 \providecommand*{\Hy@setouterhbox}{\sbox}
11910 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11911 \def\Hy@DEST{/DEST}
11912 \def\pdf@rect#1{%
11913 \begingroup

```

```

11914 \chardef\x=1 %
11915 \def\Hy@temp{#1}%
11916 \ifx\Hy@temp\ltx@empty
11917 \chardef\x=0 %
11918 \else
11919 \def\y{\anchor@spot}%
11920 \ifx\Hy@temp\y
11921 \def\y{\relax}%
11922 \ifx\anchor@spot\y
11923 \chardef\x=0 %
11924 \fi
11925 \fi
11926 \fi
11927 \expandafter\endgroup
11928 \ifcase\x
11929 \literalps@out{H.S}%
11930 \literalps@out{H.R}%
11931 \else
11932 \leavevmode
11933 \Hy@SaveSpaceFactor
11934 \ifmmode
11935 \def\Hy@LinkMath{$}%
11936 \else
11937 \let\Hy@LinkMath\ltx@empty
11938 \fi
11939 \ifHy@breaklinks
11940 \Hy@setouterhbox\pdf@box{%
11941 \Hy@RestoreSpaceFactor
11942 \Hy@LinkMath
11943 \Hy@AllowHyphens#1\Hy@xspace@end
11944 \Hy@LinkMath
11945 \Hy@SaveSpaceFactor
11946 }%
11947 \else
11948 \sbox\pdf@box{%
11949 \Hy@RestoreSpaceFactor
11950 \Hy@LinkMath
11951 #1\Hy@xspace@end
11952 \Hy@LinkMath
11953 \Hy@SaveSpaceFactor
11954 }%
11955 \fi
11956 \dimen@ht\pdf@box
11957 \ifdim\dp\pdf@box=\z@
11958 \literalps@out{H.S}%
11959 \else
11960 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11961 \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...).

```

11962 \ifHy@breaklinks
11963 \ifhmode
11964 \Hy@breaklinksunhbox\pdf@box
11965 \else
11966 \box\pdf@box
11967 \fi
11968 \else

```

```

11969   \expandafter\box\pdf@box
11970   \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

11971   \ifdim\dimen@=\z@
11972     \literalps@out{H.R.}%
11973   \else
11974     \raise\dimen@\hbox{\literalps@out{H.R.}}%
11975   \fi
11976   \Hy@RestoreSpaceFactor
11977 \fi
11978 \ifx\pdf@type\Hy@DEST
11979 \else
11980   \pdf@addtoksx{H.B}%
11981 \fi
11982 }

```

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.

```

11983 \newtoks\pdf@toks
11984 \newtoks\pdf@defaulttoks
11985 \pdf@defaulttoks={} %
11986 \def\pdf@addtoks#1#2{%
11987   \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11988   \@processme
11989 }
11990 \def\pdf@addtoksx#1{%
11991   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11992   \@processme
11993 }
11994 \def\PDFdefaults#1{%
11995   \pdf@defaulttoks={#1}%
11996 }

```

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

```

11997 % what is the type of pdfmark?
11998 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11999 % what is the link type?
12000 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
12001 \def\pdf@linktype{link}
12002 % named object?
12003 \define@key{PDF}{objdef}{\edef\pdf@objdef{#1}}
12004 \let\pdf@objdef\ltx@empty
12005 % parameter is a stream of PDF
12006 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
12007 % parameter is a name
12008 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
12009 % parameter is a array
12010 \define@key{PDF}{Border}{%
12011   \edef\Hy@temp{#1}%
12012   \ifx\Hy@temp\@empty
12013     \else
12014       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok

```

```

12015 \fi
12016 }
12017 \let\Hy@BorderArrayPatch\@empty
12018 % parameter is a dictionary
12019 \define@key{PDF}{BorderStyle}{%
12020 \edef\Hy@temp{#1}%
12021 \ifx\Hy@temp\@empty
12022 \else
12023 \pdf@addtoks{<<#1>>}{BS}%
12024 \fi
12025 }
12026 % parameter is a array
12027 \define@key{PDF}{Color}{%
12028 \ifx\relax#1\relax
12029 \else
12030 \pdf@addtoks{[#1]}{Color}% hash-ok
12031 \fi
12032 }
12033 % parameter is a string
12034 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
12035 % parameter is a integer
12036 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
12037 % parameter is a array
12038 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
12039 % parameter is a string
12040 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
12041 % parameter is a string or file
12042 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
12043 % parameter is a destination
12044 \define@key{PDF}{Dest}{%
12045 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
12046 \ifx\Hy@pstringDest\@empty
12047 \Hy@pdfmarkerrortrue
12048 \Hy@Warning{Destination with empty name ignored}%
12049 \else
12050 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
12051 \fi
12052 }
12053 \define@key{PDF}{DestAnchor}{%
12054 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
12055 \ifx\Hy@pstringDest\@empty
12056 \Hy@pdfmarkerrortrue
12057 \Hy@Warning{Destination with empty name ignored}%
12058 \else
12059 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
12060 \fi
12061 }
12062 % parameter is a string
12063 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
12064 % parameter is a string
12065 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
12066 % parameter is a int
12067 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
12068 \define@key{PDF}{PDFAFlags}{%
12069 \ifHy@pdfa
12070 \pdf@addtoks{#1}{F}%
12071 \fi

```

```

12072 }
12073 % parameter is a name
12074 \define@key{PDF}{AcroHighlight}{%
12075   \begingroup
12076     \edef\x{#1}%
12077     \expandafter\endgroup\ifx\x\@empty
12078     \else
12079       \pdf@addtoks{#1}{H}%
12080     \fi
12081 }
12082 % parameter is a string
12083 \define@key{PDF}{ID}{\pdf@addtoks{#1}{ID}}% hash-ok
12084 % parameter is a string
12085 \define@key{PDF}{MacFile}{\pdf@addtoks{#1}{MacFile}}
12086 % parameter is a string
12087 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
12088 % parameter is a string
12089 \define@key{PDF}{Op}{\pdf@addtoks{#1}{Op}}
12090 % parameter is a Boolean
12091 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
12092 % parameter is a integer or name
12093 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
12094 % parameter is a name
12095 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
12096 % parameter is a string
12097 \define@key{PDF}{Params}{\pdf@addtoks{#1}{Params}}
12098 % parameter is a array
12099 \define@key{PDF}{Rect}{\pdf@addtoks{#1}{Rect}}% hash-ok
12100 % parameter is a integer
12101 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
12102 % parameter is a name
12103 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
12104 % parameter is a string
12105 \define@key{PDF}{Title}{\pdf@addtoks{#1}{Title}}
12106 % parameter is a string
12107 \define@key{PDF}{Unix}{\pdf@addtoks{#1}{Unix}}
12108 % parameter is a string
12109 \define@key{PDF}{UnixFile}{\pdf@addtoks{#1}{UnixFile}}
12110 % parameter is an array
12111 \define@key{PDF}{View}{\pdf@addtoks{#1}{View}}% hash-ok
12112 % parameter is a string
12113 \define@key{PDF}{WinFile}{\pdf@addtoks{#1}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

12114 \define@key{PDF}{Author}{\pdf@addtoks{#1}{Author}}
12115 \define@key{PDF}{Creator}{\pdf@addtoks{#1}{Creator}}
12116 \define@key{PDF}{CreationDate}{\pdf@addtoks{#1}{CreationDate}}
12117 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
12118 \define@key{PDF}{Producer}{\pdf@addtoks{#1}{Producer}}
12119 \define@key{PDF}{Subject}{\pdf@addtoks{#1}{Subject}}
12120 \define@key{PDF}{Keywords}{\pdf@addtoks{#1}{Keywords}}
12121 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
12122 \define@key{PDF}{Base}{\pdf@addtoks{#1}{Base}}
12123 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
12124 \define@key{PDF}{Trapped}{%
12125   \edef\Hy@temp{#1}%
12126   \ifx\Hy@temp\@empty
12127   \else

```

```

12128 \pdf@addtoks{/#1}{Trapped}%
12129 \fi
12130 }
12131
12132 \pdfmarkbase\
12133 \pdfmark\
12134 \def\Acrobatmenu#1#2{%
12135 \EdefEscapeName\Hy@temp@menu{#1}%
12136 \Hy@Acrobatmenu{#1}{#2}{%
12137 \pdfmark[{#2}]{%
12138 linktype=menu,%
12139 pdfmark=/ANN,%
12140 AcroHighlight=\pdfhighlight,%
12141 Border=\pdfborder,%
12142 BorderStyle=\pdfborderstyle,%
12143 Color=\menubordercolor,%
12144 Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
12145 Subtype=/Link,%
12146 PDFAFlags=4%
12147 }%
12148 }%
12149 }

```

And now for some useful examples:

```

12150 \def\PDFNextPage{\ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
12151 \def\PDFNextPage@[#1]#2{%
12152 \pdfmark[{#2}]{%
12153 #1,%
12154 Border=\pdfborder,%
12155 BorderStyle=\pdfborderstyle,%
12156 Color=.2 .1 .5,%
12157 pdfmark=/ANN,%
12158 Subtype=/Link,%
12159 PDFAFlags=4,%
12160 Page=/Next%
12161 }%
12162 }
12163 \def\PDFPreviousPage{%
12164 \ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
12165 }
12166 \def\PDFPreviousPage@[#1]#2{%
12167 \pdfmark[{#2}]{%
12168 #1,%
12169 Border=\pdfborder,%
12170 BorderStyle=\pdfborderstyle,%
12171 Color=.4 .4 .1,%
12172 pdfmark=/ANN,%
12173 Subtype=/Link,%
12174 PDFAFlags=4,%
12175 Page=/Prev%
12176 }%
12177 }
12178 \def\PDFOpen#1{%
12179 \pdfmark{#1,pdfmark=/DOCVIEW}%
12180 }

```

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

```

12181 \def\hyper@linkurl#1#2{%

```



```

12182 \begingroup
12183 \Hy@pstringdef\Hy@pstringURI{#2}%
12184 \hyper@chars
12185 \leavevmode
12186 \pdfmark[{#1}]{%
12187 pdfmark=/ANN,%
12188 linktype=url,%
12189 AcroHighlight=\@pdfhighlight,%
12190 Border=\@pdfborder,%
12191 BorderStyle=\@pdfborderstyle,%
12192 Color=\@urlbordercolor,%
12193 Action={<<%
12194 /Subtype/URI%
12195 /URI(\Hy@pstringURI)%
12196 \ifHy@href@ismap
12197 /IsMap true%
12198 \fi
12199 >>},%
12200 Subtype=/Link,%
12201 PDFAFlags=4%
12202 }%
12203 \endgroup
12204 }
12205 \def\hyper@linkfile#1#2#3{%
12206 \begingroup
12207 \def\Hy@pstringF{#2}%
12208 \Hy@CleanupFile\Hy@pstringF
12209 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
12210 \Hy@pstringdef\Hy@pstringD{#3}%
12211 \Hy@MakeRemoteAction
12212 \leavevmode
12213 \pdfmark[{#1}]{%
12214 pdfmark=/ANN,%
12215 Subtype=/Link,%
12216 PDFAFlags=4,%
12217 AcroHighlight=\@pdfhighlight,%
12218 Border=\@pdfborder,%
12219 BorderStyle=\@pdfborderstyle,%
12220 linktype=file,%
12221 Color=\@filebordercolor,%
12222 Action={%
12223 <<%
12224 /S/GoToR%
12225 \Hy@SetNewWindow
12226 /F(\Hy@pstringF)%
12227 /D%
12228 \ifx\#3\%
12229 [\Hy@href@page\@pdfremotestartview]%
12230 \else
12231 (\Hy@pstringD)cvn%
12232 \fi
12233 \Hy@href@nextactionraw
12234 >>%
12235 }%
12236 }%
12237 \endgroup
12238 }

```

```

12239 \def\@hyper@launch run:#1\|#2#3{%
12240   \begingroup
12241     \Hy@pstringdef\Hy@pstringF{#1}%
12242     \Hy@pstringdef\Hy@pstringP{#3}%
12243     \leavevmode
12244     \pdfmark[{#2}]{%
12245       pdfmark=/ANN,%
12246       Subtype=/Link,%
12247       PDFAFlags=4,%
12248       AcroHighlight=\@pdfhighlight,%
12249       Border=\@pdfborder,%
12250       BorderStyle=\@pdfborderstyle,%
12251       linktype=run,%
12252       Color=\@runbordercolor,%
12253       Action={%
12254         <<%
12255         /S/Launch%
12256         \Hy@SetNewWindow
12257         /F(\Hy@pstringF)%
12258         \ifx\|#3\|%
12259           \else
12260             /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
12261           \fi
12262           \Hy@href@nextactionraw
12263         >>%
12264       }%
12265     }%
12266   \endgroup
12267 }
12268 \pdfmark

```

Unfortunately, some parts of the pdfmark PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

## 47.9 Rokicki's dvips

dvips thinks in 10ths of a big point, its coordinate space is resolution dependent, and its *y* axis starts at the top of the page. Other drivers can and will be different!

The work is done in SDict, because we add in some header definitions in a moment.

```

12269 <*dvips>
12270 \providecommand*\XR@ext}{pdf}
12271 \let\Hy@raisedlink\ltx@empty
12272 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
12273 \def\headerps@out#1{\special{! #1}}%
12274 \input{pdfmark.def}%
12275 \ifx\@pdfproducer\relax
12276   \def\@pdfproducer{dvips + Distiller}%
12277 \fi
12278 \providecommand*\@pdfborder{0 0 1}
12279 \providecommand*\@pdfborderstyle{}
12280 \providecommand*\@pdfview{XYZ}
12281 \providecommand*\@pdfviewparams{ H.V}
12282 \def\Hy@BorderArrayPatch{BorderArrayPatch}
12283 \g@addto@macro\Hy@FirstPageHook{%
12284   \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.

```
12285 /DvipsToPDF{72.27 mul Resolution div} def%
12286 /PDFToDvips{72.27 div Resolution mul} def%
12287 /BPToDvips{72 div Resolution mul}def%
```

The values inside the /Border array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```
12288 /BorderArrayPatch{%
12289   [exch{%
12290     dup dup type/integertype eq exch type/realtype eq or%
12291     {BPToDvips}if%
12292   }forall]%
12293 }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.

```
12294 /HyperBorder {1 PDFToDvips} def%
12295 /H.V {pdf@hoff pdf@voff null} def%
12296 /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

```
12297 /H.S {%
12298   currentpoint %
12299   HyperBorder add /pdf@lly exch def %
12300   dup DvipsToPDF 72 add /pdf@hoff exch def %
12301   HyperBorder sub /pdf@llx exch def%
12302 } def%
```

The calculation of upper left *y* is done without raising the point in T<sub>E</sub>X, by simply adding on the current \baselineskip to the current *y*. This is usually too much, so we remove a notional 2 points.

We have to see what the current baselineskip is, and convert it to the dvips coordinate system.

Argument: baselineskip in pt. The *x* and *y* coordinates of the current point, minus the baselineskip

```
12303 /H.L {%
12304   2 sub dup%
12305   /HyperBasePt exch def %
12306   PDFToDvips /HyperBaseDvips exch def %
12307   currentpoint %
12308   HyperBaseDvips sub /pdf@ury exch def%
12309   /pdf@urx exch def%
12310 } def%
12311 /H.A {%
```

```

12312      H.L. %
12313 % | /pdf@voff| = the distance from the top of the page to a point
12314 % | \baselineskip| above the current point in PDF coordinates
12315      currentpoint exch pop %
12316      vsize 72 sub exch DvipsToPDF %
12317      HyperBasePt sub % baseline skip
12318      sub /pdf@voff exch def%
12319    } def%
12320    /H.R. {%
12321      currentpoint %
12322      HyperBorder sub /pdf@ury exch def %
12323      HyperBorder add /pdf@urx exch def %
12324 % | /pdf@voff| = the distance from the top of the page to the current point, in
12325 % PDF coordinates
12326      currentpoint exch pop vsize 72 sub %
12327      exch DvipsToPDF sub /pdf@voff exch def%
12328    } def%
12329  }%
12330 }
12331 \AtBeginShipoutFirst{%
12332   \ifHy@setpagesize
12333     \begingroup
12334       \@ifundefined{stockwidth}{%
12335         \ifdim\paperwidth>\z@
12336           \ifdim\paperheight>\z@
12337             \special{papersize=\the\paperwidth,\the\paperheight}%
12338           \fi
12339         \fi
12340       }{%
12341         \ifdim\stockwidth>\z@
12342           \ifdim\stockheight>\z@
12343             \special{papersize=\the\stockwidth,\the\stockheight}%
12344           \fi
12345         \fi
12346       }%
12347     \endgroup
12348   \fi
12349   \Hy@DisableOption{setpagesize}%
12350 }
12351 \def\setpdfinkmargin#1{%
12352   \begingroup
12353     \setlength{\dimen@}{#1}%
12354     \literalps@out{%
12355       /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12356     }%
12357   \endgroup
12358 }
12359 </dvips>

```

## 47.10 VTeX's vtexpdfmark driver

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

The origin seems to be the same as TeX's origin, 1 in from the left and 1 in downwards from the top. The direction of the  $y$  axis is downwards, the opposite of the dvips case. Units seems to be pt or bp.

```
12360 (*vtexpdfmark)
```

```

12361 \providecommand*\XR@ext>{pdf}
12362 \let\Hy@raisedlink\ltx@empty
12363 \def\literalps@out#1{\special{pS:#1}}%
12364 \def\headerps@out#1{\immediate\special{pS:#1}}%
12365 \input{pdfmark.def}%
12366 \ifx\@pdfproducer\relax
12367   \ifnum\OpMode=\@ne
12368     \def\@pdfproducer{VTeX}%
12369   \else
12370     \def\@pdfproducer{VTeX + Distiller}%
12371   \fi
12372 \fi
12373 \providecommand*\@pdfborder{0 0 1}
12374 \providecommand*\@pdfborderstyle{}
12375 \providecommand*\@pdfview{XYZ}
12376 \providecommand*\@pdfviewparams{ H.V}

12377 \g@addto@macro\Hy@FirstPageHook{%
12378   \headerps@out{%
12379     /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.

```

12380   /HyperBorder {1} def%
12381   /H.V {pdf@hoff pdf@voff null} def%
12382   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

12383   /H.S {%
12384     currentpoint %
12385     HyperBorder sub%
12386     /pdf@lly exch def %
12387     dup 72 add /pdf@hoff exch def %
12388     HyperBorder sub%
12389     /pdf@llx exch def%
12390   } def%

```

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

```

12391   /H.L {%
12392     2 sub%
12393     /HyperBasePt exch def %
12394     currentpoint %
12395     HyperBasePt add HyperBorder add%
12396     /pdf@ury exch def %
12397     HyperBorder add%
12398     /pdf@urx exch def%
12399   } def%
12400   /H.A {%
12401     H.L %
12402     currentpoint exch pop %
12403     vsize 72 sub exch %
12404     HyperBasePt add add%
12405     /pdf@voff exch def%
12406   } def%

```

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

```

12407 /H.R {%
12408   currentpoint %
12409   HyperBorder add%
12410   /pdf@ury exch def %
12411   HyperBorder add%
12412   /pdf@urx exch def %
12413   currentpoint exch pop vsize 72 sub add%
12414   /pdf@voff exch def%
12415 } def%
12416 }%
12417 }

12418 \def\setpdfinkmargin#1{%
12419   \begingroup
12420     \setlength{\dimen@}{#1}%
12421     \literalps@out{%
12422       /HyperBorder{\strip@pt\dimen@}def%
12423     }%
12424   \endgroup
12425 }

12426 </vtxpdfmark>

```

## 47.11 Textures

```

12427 <*textures>
12428 \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.

```

12429 \begingroup
12430   \obeylines %
12431   \gdef\Hy@ps@CR{\noexpand
12432   }%
12433 \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`.

```

12434 \def\literalps@out#1{%
12435   \special{postscript 0 0 transform}%
12436   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
12437 }%
12438 %

```

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.

```
12439 \def\headerps@out#1{%
12440   \special{%
12441     prepostscript TeXdict begin\Hy@ps@CR
12442     #1\Hy@ps@CR
12443   end%
12444 }%
12445 }%
12446 %
```

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.

```
12447 \g@addto@macro\Hy@FirstPageHook{%
12448   \headerps@out{%
12449     /betterpdfmark {%
12450       systemdict begin %
12451       dup /BP eq%
12452       {cleartomark gsave nulldevice []%
12453       {dup /EP eq%
12454         {cleartomark cleartomark grestore}%
12455         {cleartomark}%
12456       ifelse%
12457       }ifelse %
12458     end%
12459   }def\Hy@ps@CR
12460   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
12461 }% end of \headerps@out
12462 }% end of \AtBeginShipoutFirst
12463 %
12464 \input{pdfmark.def}%
12465 %
12466 \ifx\@pdfproducer\relax
12467   \def\@pdfproducer{Textures + Distiller}%
12468 \fi
12469 \providecommand*\@pdfborder{0 0 1}
12470 \providecommand*\@pdfborderstyle{}
12471 \providecommand*\@pdfview{XYZ}
12472 \providecommand*\@pdfviewparams{ H.V}
12473 %
```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx pdf@lly pdf@urx pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff pdf@voff` which are the PDF page offsets. The `Rect` pair are called at the LL and UR corners of a box known to  $\TeX$ .

```
12474 \Hy@AtBeginDocument{%
12475   \headerps@out{%
```

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

```
12476   /vsize {\Hy@pageheight} def%
12477   /DvipsToPDF {} def%
12478   /PDFToDvips {} def%
12479   /BPToDvips {} def%
```

```

12480 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
12481 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
12482 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
12483 /H.S {%
12484     currentpoint %
12485     HyperBorder add /pdf@lly exch def %
12486     dup DvipsToPDF 72 add /pdf@hoff exch def %
12487     HyperBorder sub /pdf@llx exch def%
12488 } def\Hy@ps@CR
12489 /H.L {%
12490     2 sub %
12491     PDFToDvips /HyperBase exch def %
12492     currentpoint %
12493     HyperBase sub /pdf@ury exch def%
12494     /pdf@urx exch def%
12495 } def\Hy@ps@CR
12496 /H.A {%
12497     H.L %
12498     currentpoint exch pop %
12499     vsize 72 sub exch DvipsToPDF %
12500     HyperBase sub % baseline skip
12501     sub /pdf@voff exch def%
12502 } def\Hy@ps@CR
12503 /H.R {%
12504     currentpoint %
12505     HyperBorder sub /pdf@ury exch def %
12506     HyperBorder add /pdf@urx exch def %
12507     currentpoint exch pop vsize 72 sub %
12508     exch DvipsToPDF sub /pdf@voff exch def%
12509 } def\Hy@ps@CR
12510 }%
12511 }

12512 \def\setpdfinkmargin#1{%
12513     \begingroup
12514     \setlength{\dimen@}{#1}%
12515     \literalps@out{%
12516         /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12517     }%
12518     \endgroup
12519 }

12520 \Hy@AtBeginDocument{%
12521     \ifHy@colorlinks
12522     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
12523     \fi
12524 }

12525 \expandafter\let\expandafter\keepPDF@SetupDoc
12526     \csname PDF@SetupDoc\endcsname
12527 \def\PDF@SetupDoc{%
12528     \ifx\@baseurl\@empty
12529     \else
12530     \special{html:<base href="\@baseurl">}%
12531     \fi
12532     \keepPDF@SetupDoc

```

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.



```

12533 }
12534 \Hy@WrapperDef\hyper@anchor#1{%
12535   \Hy@SaveLastskip
12536   \Hy@VerboseAnchor{#1}%
12537   \begingroup
12538     \let\protect=\string
12539     \special{html:<a name=%
12540       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12541   \endgroup
12542   \Hy@activeanchortrue
12543   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12544   \special{html:</a>}%
12545   \Hy@activeanchorfalse
12546   \Hy@RestoreLastskip
12547 }
12548 \Hy@WrapperDef\hyper@anchorstart#1{%
12549   \Hy@SaveLastskip
12550   \Hy@VerboseAnchor{#1}%
12551   \begingroup
12552     \hyper@chars
12553     \special{html:<a name=%
12554       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12555   \endgroup
12556   \Hy@activeanchortrue
12557 }
12558 \def\hyper@anchorend{%
12559   \special{html:</a>}%
12560   \Hy@activeanchorfalse
12561   \Hy@RestoreLastskip
12562 }
12563 \def\@urltype{url}
12564 \def\hyper@linkstart#1#2{%
12565   \Hy@VerboseLinkStart{#1}{#2}%
12566   \expandafter\Hy@colorlink\csname @#1color\endcsname
12567   \def\Hy@tempa{#1}%
12568   \ifx\Hy@tempa\@urltype
12569     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12570   \else
12571     \begingroup
12572       \hyper@chars
12573       \special{%
12574         html:<a href=%
12575           \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
12576       }%
12577     \endgroup
12578   \fi
12579 }
12580 \def\hyper@linkend{%
12581   \special{html:</a>}%
12582   \Hy@endcolorlink
12583 }
12584 \def\hyper@linkfile#1#2#3{%
12585   \hyper@linkurl{#1}{%
12586     \Hy@linkfileprefix#2\ifx\\#3\\ \else\##3\fi
12587   }%
12588 }
12589 \def\hyper@linkurl#1#2{%

```

```

12590 \leavevmode
12591 \ifHy@raiselinks
12592   \Hy@SaveSpaceFactor
12593   \Hy@SaveSavedSpaceFactor
12594   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12595   \Hy@RestoreSavedSpaceFactor
12596   \@linkdim\dp\@tempboxa
12597   \lower\@linkdim\hbox{%
12598     \hyper@chars
12599     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12600   }%
12601   \Hy@colorlink\@urlcolor
12602   \Hy@RestoreSpaceFactor
12603   #1\Hy@xspace@end
12604   \Hy@SaveSpaceFactor
12605   \@linkdim\ht\@tempboxa
12606   \advance\@linkdim by -6.5\p@
12607   \raise\@linkdim\hbox{\special{html:</a>}}%
12608   \Hy@endcolorlink
12609   \Hy@RestoreSpaceFactor
12610 \else
12611   \begingroup
12612   \hyper@chars
12613   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12614   \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12615   \special{html:</a>}%
12616   \Hy@endcolorlink
12617 \endgroup
12618 \fi
12619 }

```

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

```

12620 \def\hyper@link#1#2#3{%
12621   \Hy@VerboseLinkStart{#1}{#2}%
12622   \hyper@linkurl{#3}{\# \Hy@DestNameFilter{#2}}%
12623 }
12624 \def\hyper@image#1#2{%
12625   \begingroup
12626   \hyper@chars
12627   \special{html:<img src=\hyper@quote#1\hyper@quote>}%
12628 \endgroup
12629 }
12630 </textures>

```

## 47.12 dvipsone

```

12631 % \subsection{dvipsone driver}
12632 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12633 % |\special| commands.
12634 (*dvipsone)
12635 \providecommand*\XR@ext}{pdf}
12636 \let\Hy@raisedlink\ltx@empty
12637 \providecommand*\@pdfborder{0 0 1}
12638 \providecommand*\@pdfborderstyle{}
12639 \def\literalps@out#1{\special{ps:#1}}%
12640 \def\headerps@out#1{\special{headertext=#1}}%
12641 \input{pdfmark.def}%
12642 \ifx\@pdfproducer\relax

```

```

12643 \def\@pdfproducer{dvipsone + Distiller}%
12644 \fi
12645 \HyInfo@AddonUnsupportedtrue
12646 \def\PDF@FinishDoc{%
12647   \Hy@UseMaketitleInfos
12648   \HyInfo@TrappedUnsupported
12649   \special{PDF: Keywords \@pdfkeywords}%
12650   \special{PDF: Title \@pdftitle}%
12651   \special{PDF: Creator \@pdfcreator}%
12652   \ifx\@pdfcreationdate\@empty
12653   \else
12654     \special{PDF: CreationDate \@pdfcreationdate}%
12655   \fi
12656   \ifx\@pdfmoddate\@empty
12657   \else
12658     \special{PDF: ModDate \@pdfmoddate}%
12659   \fi
12660   \special{PDF: Author \@pdfauthor}%
12661   \ifx\@pdfproducer\relax
12662   \else
12663     \special{PDF: Producer \@pdfproducer}%
12664   \fi
12665   \special{PDF: Subject \@pdfsubject}%
12666   \Hy@DisableOption{pdfauthor}%
12667   \Hy@DisableOption{pdftitle}%
12668   \Hy@DisableOption{pdfsubject}%
12669   \Hy@DisableOption{pdfcreator}%
12670   \Hy@DisableOption{pdfcreationdate}%
12671   \Hy@DisableOption{pdfmoddate}%
12672   \Hy@DisableOption{pdfproducer}%
12673   \Hy@DisableOption{pdfkeywords}%
12674   \Hy@DisableOption{pdftrapped}%
12675   \Hy@DisableOption{pdfinfo}%
12676 }
12677 \def\PDF@SetupDoc{%
12678   \def\Hy@temp{}%
12679   \ifx\@pdfstartpage\@empty
12680   \else
12681     \ifx\@pdfstartview\@empty
12682     \else
12683       \edef\Hy@temp{%
12684         ,Page=\@pdfstartpage
12685         ,View=\@pdfstartview
12686       }%
12687     \fi
12688   \fi
12689   \edef\Hy@temp{%
12690     \noexpand\pdfmark{%
12691       pdfmark=/DOCVIEW,%
12692       PageMode=/\@pdfpagemode
12693     }%
12694   }%
12695 }%
12696 \Hy@temp
12697 \ifx\@pdfpagescrop\@empty
12698 \else
12699   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%

```

```

12700 \fi
12701 \edef\Hy@temp{%
12702   \ifHy@pdftoolbar\else /HideToolbar true\fi
12703   \ifHy@pdfmenubar\else /HideMenubar true\fi
12704   \ifHy@pdfwindowui\else /HideWindowUI true\fi
12705   \ifHy@pdfwindow /FitWindow true\fi
12706   \ifHy@pdfcenterwindow /CenterWindow true\fi
12707   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12708   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12709   \Hy@UseNameKey{Direction}\@pdfdirection
12710   \Hy@UseNameKey{ViewArea}\@pdfviewarea
12711   \Hy@UseNameKey{ViewClip}\@pdfviewclip
12712   \Hy@UseNameKey{PrintArea}\@pdfprintarea
12713   \Hy@UseNameKey{PrintClip}\@pdfprintclip
12714   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12715   \Hy@UseNameKey{Duplex}\@pdfduplex
12716   \ifx\@pdfpicktraybypdfsize\@empty
12717   \else
12718     /PickTrayByPDFSize \@pdfpicktraybypdfsize
12719   \fi
12720   \ifx\@pdfprintpagerange\@empty
12721   \else
12722     /PrintPageRange[\@pdfprintpagerange]%
12723   \fi
12724   \ifx\@pdfnumcopies\@empty
12725   \else
12726     /NumCopies \@pdfnumcopies
12727   \fi
12728 }%
12729 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12730 \pdfmark{%
12731   pdfmark=/PUT,%
12732   Raw={%
12733     \string{Catalog\string}<<%
12734     \ifx\Hy@temp\@empty
12735     \else
12736       /ViewerPreferences<<\Hy@temp>>%
12737     \fi
12738     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12739     \ifx\@pdflang\@empty
12740     \else
12741       /Lang(\@pdflang)%
12742     \fi
12743     \ifx\@baseurl\@empty
12744     \else
12745       /URI<</Base(\Hy@pstringB)>>%
12746     \fi
12747     >>%
12748   }%
12749 }%
12750 }
12751 \providecommand*\@pdfview{XYZ}
12752 \providecommand*\@pdfviewparams{ %
12753   gsave revscl currentpoint grestore %
12754   72 add exch pop null exch null%
12755 }
12756 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx pdf@lly pdf@urx pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff pdf@voff` which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to T<sub>E</sub>X.

```
12757 \g@addto@macro\Hy@FirstPageHook{%
12758   \headerps@out{%
```

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

```
12759   /DvipsToPDF { 65781 div } def%
12760   /PDFToDvips { 65781 mul } def%
12761   /BPToDvips{65781 mul}def%
12762   /HyperBorder { 1 PDFToDvips } def%
12763   /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.

```
12764   /BorderArrayPatch{%
12765     [exch{%
12766       dup dup type/integertype eq exch type/realtype eq or%
12767       {BPToDvips}if%
12768     }forall]%
12769   }def%
12770   /H.S {%
12771     currentpoint %
12772     HyperBorder add /pdf@lly exch def %
12773     dup DvipsToPDF 72 add /pdf@hoff exch def %
12774     HyperBorder sub /pdf@llx exch def%
12775   } def%
12776   /H.L {%
12777     2 sub %
12778     PDFToDvips /HyperBase exch def %
12779     currentpoint %
12780     HyperBase sub /pdf@ury exch def%
12781     /pdf@urx exch def%
12782   } def%
12783   /H.A {%
12784     H.L %
12785     currentpoint exch pop %
12786     HyperBase sub % baseline skip
12787     DvipsToPDF /pdf@voff exch def%
12788   } def%
12789   /H.R {%
12790     currentpoint %
12791     HyperBorder sub /pdf@ury exch def %
12792     HyperBorder add /pdf@urx exch def %
12793     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12794   } def%
12795   }%
12796 }
12797 \def\setpdflinkmargin#1{%
12798   \begingroup
12799   \setlength{\dimen@}{#1}%
12800   \literalps@out{%
12801     /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12802   }%
12803   \endgroup
```

```

12804 }
12805 </dvipsone>

```

### 47.13 TeX4ht

```

12806 (*tex4ht)
12807 \providecommand*{\XR@ext}{html}
12808 \let\Hy@raisedlink\ltx@empty
12809 \@ifpackageloaded{tex4ht}{%
12810   \Hy@InfoNoLine{tex4ht is already loaded}%
12811 }{%
12812   \RequirePackage[hTeX4ht]{tex4ht}%
12813 }
12814 \hyperlinkfileprefix{}
12815 \let\PDF@FinishDoc\ltx@empty
12816 \def\PDF@SetupDoc{%
12817   \ifx\@baseurl\@empty
12818     \else
12819       \special{t4ht=<base href="\@baseurl">}%
12820     \fi
12821 }
12822 \Hy@WrapperDef\hyper@anchor#1{%
12823   \Hy@SaveLastskip
12824   \Hy@VerboseAnchor{#1}%
12825   \begingroup
12826     \let\protect=\string
12827     \special{t4ht=<a name=%
12828       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12829   \endgroup
12830   \Hy@activeanchortrue
12831   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12832   \special{t4ht=</a>}%
12833   \Hy@activeanchorfalse
12834   \Hy@RestoreLastskip
12835 }
12836 \Hy@WrapperDef\hyper@anchorstart#1{%
12837   \Hy@SaveLastskip
12838   \Hy@VerboseAnchor{#1}%
12839   \begingroup
12840     \hyper@chars\special{t4ht=<a name=%
12841       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12842   \endgroup
12843   \Hy@activeanchortrue
12844 }
12845 \def\hyper@anchorend{%
12846   \special{t4ht=</a>}%
12847   \Hy@activeanchorfalse
12848   \Hy@RestoreLastskip
12849 }
12850 \def\@urltype{url}
12851 \def\hyper@linkstart#1#2{%
12852   \Hy@VerboseLinkStart{#1}{#2}%
12853   \expandafter\Hy@colorlink\csname @#1color\endcsname
12854   \def\Hy@tempa{#1}%
12855   \ifx\Hy@tempa\@urltype
12856     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12857   \else
12858     \begingroup

```

```

12859 \hyper@chars
12860 \special{t4ht=<a href=%
12861 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12862 \endgroup
12863 \fi
12864 }
12865 \def\hyper@linkend{%
12866 \special{t4ht=</a>}%
12867 \Hy@endcolorlink
12868 }
12869 \def\hyper@linkfile#1#2#3{%
12870 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12871 }
12872 \def\hyper@linkurl#1#2{%
12873 \leavevmode
12874 \ifHy@raiselinks
12875 \Hy@SaveSpaceFactor
12876 \Hy@SaveSavedSpaceFactor
12877 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12878 \Hy@RestoreSavedSpaceFactor
12879 \@linkdim\dp\@tempboxa
12880 \lower\@linkdim\hbox{%
12881 \begingroup
12882 \hyper@chars
12883 \special{%
12884 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12885 }%
12886 \endgroup
12887 }%
12888 \Hy@colorlink\@urlcolor
12889 \Hy@RestoreSpaceFactor
12890 #1\Hy@xspace@end
12891 \Hy@SaveSpaceFactor
12892 \Hy@endcolorlink
12893 \@linkdim\ht\@tempboxa
12894 \advance\@linkdim by -6.5\p@
12895 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12896 \Hy@RestoreSpaceFactor
12897 \else
12898 \begingroup
12899 \hyper@chars
12900 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12901 \Hy@colorlink\@urlcolor
12902 #1\Hy@xspace@end
12903 \Hy@endcolorlink
12904 \special{t4ht=</a>}%
12905 \endgroup
12906 \fi
12907 }

```

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

```

12908 \def\hyper@link#1#2#3{%
12909 \Hy@VerboseLinkStart{#1}{#2}%
12910 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12911 }
12912 \def\hyper@image#1#2{%
12913 \begingroup
12914 \hyper@chars

```

```

12915 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12916 \endgroup
12917 }
12918 \let\autoref\ref
12919 \ifx \rEfLiNK \UnDef
12920 \def\rEfLiNK #1#2{#2}%
12921 \fi
12922 \let\backref\ltx@gobble

Fix for tex4ht.
12923 \AtBeginDocument{%
12924 \expandafter
12925 \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12926 \expandafter\def\csname Make:Label\endcsname#1#2{%
12927 \ifhmode
12928 \Hy@SaveSpaceFactor
12929 \else
12930 \global\Hy@SavedSpaceFactor=1000 %
12931 \fi
12932 \Hy@OrgMakeLabel{#1}{%
12933 \Hy@RestoreSpaceFactor
12934 #2\Hy@xspace@end%
12935 \Hy@SaveSpaceFactor
12936 }%
12937 \Hy@RestoreSpaceFactor
12938 }%
12939 }
12940 </tex4ht>
12941 <*tex4htcfg>
12942 \IfFileExists{\jobname.cfg}{\endinput}{}
12943 \Preamble{html}
12944 \begin{document}%
12945 \EndPreamble
12946 \def\TeX{TeX}
12947 \def\OMEGA{Omega}
12948 \def\LaTeX{LaTeX}
12949 \def\LaTeXe{\LaTeX2e}
12950 \def\eTeX{e-TeX}
12951 \def\MF{Metafont}
12952 \def\MP{MetaPost}
12953 </tex4htcfg>

```

## 48 Driver-specific form support

### 48.1 pdfmarks

```

12954 <*pdfmark>
12955 \long\def\@Form[#1]{%
12956 \g@addto@macro\Hy@FirstPageHook{%
12957 \headerps@out{%
12958 [%
12959 /_objdef{pdfDocEncoding}%
12960 /type/dict%
12961 /OBJ pdfmark%
12962 [%
12963 {pdfDocEncoding}%
12964 <<%
12965 /Type/Encoding%

```



12966 /Differences[%  
12967 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%  
12968 /tilde %  
12969 39/quotesingle %  
12970 96/grave %  
12971 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%  
12972 /fraction/guilsinglleft/guilsinglright/minus/perthousand%  
12973 /quotedblbase/quotedblleft/quotedblright/quoteleft%  
12974 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%  
12975 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %  
12976 164/currency %  
12977 166/brokenbar %  
12978 168/dieresis/copyright/ordfeminine %  
12979 172/logicalnot/.notdef/registered/macron/degree/plusminus%  
12980 /twosuperior/threesuperior/acute/mu %  
12981 183/periodcentered/cedilla/onesuperior/ordmasculine %  
12982 188/onequarter/onehalf/threequarters %  
12983 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%  
12984 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%  
12985 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%  
12986 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%  
12987 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%  
12988 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%  
12989 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%  
12990 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%  
12991 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%  
12992 /ucircumflex/udieresis/yacute/thorn/ydieresis%  
12993 ]%  
12994 >>%  
12995 /PUT pdfmark%  
12996 [%  
12997 /\_objdef{ZaDb}%  
12998 /type/dict%  
12999 /OBJ pdfmark%  
13000 [%  
13001 {ZaDb}%  
13002 <<%  
13003 /Type/Font%  
13004 /Subtype/Type1%  
13005 /Name/ZaDb%  
13006 /BaseFont/ZapfDingbats%  
13007 >>%  
13008 /PUT pdfmark%  
13009 [%  
13010 /\_objdef{Helv}%  
13011 /type/dict%  
13012 /OBJ pdfmark%  
13013 [%  
13014 {Helv}%  
13015 <<%  
13016 /Type/Font%  
13017 /Subtype/Type1%  
13018 /Name/Helv%  
13019 /BaseFont/Helvetica%  
13020 /Encoding{pdfDocEncoding}%  
13021 >>%  
13022 /PUT pdfmark%

```

13023 [%
13024  /__objdef{aform}%
13025  /type/dict%
13026  /OBJ pdfmark%
13027 [%
13028  /__objdef{afields}%
13029  /type/array%
13030  /OBJ pdfmark%
13031 [%
13032  /__objdef{corder}%
13033  /type/array%
13034  /OBJ pdfmark%
13035  {%
13036  [%
13037    /BBox[0 0 100 100]%
13038    /__objdef{Check}%
13039    /BP pdfmark %
13040    1 0 0 setrgbcolor%
13041    /ZapfDingbats 80 selectfont %
13042    20 20 moveto%
13043    (4)show%
13044    [/EP pdfmark%
13045    [%
13046      /BBox[0 0 100 100]%
13047      /__objdef{Cross}%
13048      /BP pdfmark %
13049      1 0 0 setrgbcolor%
13050      /ZapfDingbats 80 selectfont %
13051      20 20 moveto%
13052      (8)show%
13053      [/EP pdfmark%
13054      [%
13055        /BBox[0 0 250 100]%
13056        /__objdef{Submit}%
13057        /BP pdfmark %
13058        0.6 setgray %
13059        0 0 250 100 rectfill %
13060        1 setgray %
13061        2 2 moveto %
13062        2 98 lineto %
13063        248 98 lineto %
13064        246 96 lineto %
13065        4 96 lineto %
13066        4 4 lineto %
13067        fill %
13068        0.34 setgray %
13069        248 98 moveto %
13070        248 2 lineto %
13071        2 2 lineto %
13072        4 4 lineto %
13073        246 4 lineto %
13074        246 96 lineto %
13075        fill%
13076        /Helvetica 76 selectfont %
13077        0 setgray %
13078        8 22.5 moveto%
13079        (Submit)show%

```

```

13080 [/EP pdfmark%
13081 [%
13082   /BBox[0 0 250 100]%
13083   /_objdef{SubmitP}%
13084 /BP pdfmark %
13085 0.6 setgray %
13086 0 0 250 100 rectfill %
13087 0.34 setgray %
13088 2 2 moveto %
13089 2 98 lineto %
13090 248 98 lineto %
13091 246 96 lineto %
13092 4 96 lineto %
13093 4 4 lineto %
13094 fill %
13095 1 setgray %
13096 248 98 moveto %
13097 248 2 lineto %
13098 2 2 lineto %
13099 4 4 lineto %
13100 246 4 lineto %
13101 246 96 lineto %
13102 fill%
13103 /Helvetica 76 selectfont %
13104 0 setgray %
13105 10 20.5 moveto%
13106 (Submit)show%
13107 [/EP pdfmark%
13108 } ?pdfmark%
13109 [%
13110 {aform}%
13111 <<%
13112   /Fields{afields}%
13113   /DR<<%
13114     /Font<<%
13115       /ZaDb{ZaDb}%
13116       /Helv{Helv}%
13117     >>%
13118   >>%
13119   /DA(/Helv 10 Tf 0 g)%
13120   /CO{corder}%
13121   \ifHy@pdfa
13122   \else
13123     \ifHyField@NeedAppearances
13124     /NeedAppearances true%
13125     \fi
13126   \fi
13127 >>%
13128 /PUT pdfmark%
13129 [%
13130 {Catalog}%
13131 <<%
13132   /AcroForm{aform}%
13133 >>%
13134 /PUT pdfmark%
13135 }}%
13136 \kvsetkeys{Form}{#1}%

```

```

13137 }
13138 \let\@endForm\ltx@empty
13139 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13140 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
13141 }

13142 \newcount\HyField@AnnotCount
13143 \HyField@AnnotCount=\z@
13144 \def\HyField@AdvanceAnnotCount{%
13145 \global\advance\HyField@AnnotCount\@ne
13146 }
13147 \def\HyField@TheAnnotCount{%
13148 \the\HyField@AnnotCount
13149 }

13150 \edef\Fld@pageobjref{/P/string{ThisPage\string}}

13151 \def\HyField@AddToFields#1{%
13152 \pdfmark{%
13153 pdfmark=/APPEND,%
13154 Raw={%
13155 \string{afields\string}%
13156 \string{#1\HyField@TheAnnotCount\string}%
13157 }%
13158 }%
13159 \ifx\Fld@calculate@code\ltx@empty
13160 \else
13161 \pdfmark{%
13162 pdfmark=/APPEND,%
13163 Raw={%
13164 \string{corder\string}%
13165 \string{#1\HyField@TheAnnotCount\string}%
13166 }%
13167 }%
13168 \fi
13169 }

13170 \def\@TextField[#1]#2{% parameters, label
13171 \def\Fld@name{#2}%
13172 \let\Fld@default\ltx@empty
13173 \let\Fld@value\@empty
13174 \def\Fld@width{\DefaultWidthofText}%
13175 \def\Fld@height{%
13176 \ifFld@multiline
13177 \DefaultHeightofTextMultiline
13178 \else
13179 \DefaultHeightofText
13180 \fi
13181 }%
13182 \begingroup
13183 \expandafter\HyField@SetKeys\expandafter{%
13184 \DefaultOptionsofText,#1%
13185 }%
13186 \HyField@FlagsText
13187 \ifFld@hidden\def\Fld@width{1sp}\fi
13188 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13189 \HyField@AdvanceAnnotCount
13190 \LayoutTextField{#2}{%
13191 \leavevmode
13192 \Hy@escapeform\PDFForm@Text

```

```

13193 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
13194 pdfmark=/ANN,%
13195 objdef=text\HyField@TheAnnotCount,%
13196 Raw={\PDFForm@Text}%
13197 }%
13198 }%
13199 \HyField@AddToFields{text}%
13200 \endgroup
13201 }
13202 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13203 \def\Fld@name{#2}%
13204 \let\Fld@default\relax
13205 \let\Fld@value\relax
13206 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13207 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13208 \begingroup
13209 \Fld@menulength=0 %
13210 \@tempdima\z@
13211 \@for\@curropt:=#3\do{%
13212 \expandafter\Fld@checkequals\@curropt==\\%
13213 \Hy@StepCount\Fld@menulength
13214 \settowidth{\@tempdimb}{\@currDisplay}%
13215 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13216 }%
13217 \advance\@tempdima by 15\p@
13218 \begingroup
13219 \HyField@SetKeys{#1}%
13220 \edef\x{\endgroup
13221 \noexpand\expandafter
13222 \noexpand\HyField@SetKeys
13223 \noexpand\expandafter{%
13224 \expandafter\noexpand\csname DefaultOptionsof%
13225 \ifFld@radio
13226 Radio%
13227 \else
13228 \ifFld@combo
13229 \ifFld@popdown
13230 PopdownBox%
13231 \else
13232 ComboBox%
13233 \fi
13234 \else
13235 ListBox%
13236 \fi
13237 \fi
13238 \endcsname
13239 }%
13240 }\x
13241 \HyField@SetKeys{#1}%
13242 \ifFld@hidden\def\Fld@width{1sp}\fi
13243 \ifx\Fld@value\relax
13244 \let\Fld@value\Fld@default
13245 \fi
13246 \LayoutChoiceField{#2}{%
13247 \ifFld@radio
13248 \HyField@FlagsRadioButton
13249 \@Radio{#3}%

```

```

13250 \else
13251 \begingroup
13252 \HyField@FlagsChoice
13253 \ifdim\Fld@width<\@tempdima
13254 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13255 \edef\Fld@width{\the\@tempdima}%
13256 \fi
13257 \ifFld@combo
13258 \else
13259 \@tempdima=\the\Fld@menulength\Fld@charsize
13260 \advance\@tempdima by \Fld@borderwidth bp %
13261 \advance\@tempdima by \Fld@borderwidth bp %
13262 \edef\Fld@height{\the\@tempdima}%
13263 \fi
13264 \@@ListBox{#3}%
13265 \endgroup
13266 \fi
13267 }%
13268 \endgroup
13269 }
13270 \def\@@Radio#1{%
13271 \Fld@listcount=0 %
13272 \EdefEscapeName\Fld@default{\Fld@default}%
13273 \@for\@curropt:=#1\do{%
13274 \expandafter\Fld@checkequals\@curropt==\%
13275 \EdefEscapeName\@currValue{\@currValue}%
13276 \Hy@StepCount\Fld@listcount
13277 \@currDisplay\space
13278 \Hy@escapeform\PDFForm@Radio
13279 \ifnum\Fld@listcount=1 %
13280 \HyField@AdvanceAnnotCount
13281 \fi
13282 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
13283 pdfmark=/ANN,%
13284 objdef=\ifnum\Fld@listcount=1 radio\HyField@TheAnnotCount\fi,%
13285 Raw={%
13286 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
13287 }%
13288 } % deliberate space between radio buttons
13289 \ifnum\Fld@listcount=1 %
13290 \HyField@AddToFields{radio}%
13291 \fi
13292 }%
13293 }
13294 \newcount\Fld@listcount
13295 \def\@@ListBox#1{%
13296 \HyField@PDFChoices{#1}%
13297 \Hy@escapeform\PDFForm@List
13298 \HyField@AdvanceAnnotCount
13299 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
13300 pdfmark=/ANN,%
13301 objdef=list\HyField@TheAnnotCount,%
13302 Raw={\PDFForm@List}%
13303 }%
13304 \HyField@AddToFields{list}%
13305 }
13306 \def\@PushButton[#1]#2{% parameters, label

```

```

13307 \def\Fld@name{#2}%
13308 \begingroup
13309 \expandafter\HyField@SetKeys\expandafter{%
13310 \DefaultOptionsofPushButton,#1%
13311 }%
13312 \ifHy@pdfa
13313 \Hy@Error{%
13314 PDF/A: Push button with JavaScript is prohibited%
13315 }\@ehc
13316 \LayoutPushButtonField{%
13317 \leavevmode
13318 \MakeButtonField{#2}%
13319 }%
13320 \else
13321 \HyField@FlagsPushButton
13322 \ifFld@hidden\def\Fld@width{1sp}\fi
13323 \HyField@AdvanceAnnotCount
13324 \LayoutPushButtonField{%
13325 \leavevmode
13326 \Hy@escapeform\PDFForm@Push
13327 \pdfmark[\MakeButtonField{#2}]{%
13328 pdfmark=/ANN,%
13329 objdef=push\HyField@TheAnnotCount,%
13330 Raw={\PDFForm@Push}%
13331 }%
13332 }%
13333 \HyField@AddToFields{push}%
13334 \fi
13335 \endgroup
13336 }
13337 \def\@Submit[#1]#2{%
13338 \def\Fld@width{\DefaultWidthofSubmit}%
13339 \def\Fld@height{\DefaultHeightofSubmit}%
13340 \begingroup
13341 \expandafter\HyField@SetKeys\expandafter{%
13342 \DefaultOptionsofSubmit,#1%
13343 }%
13344 \HyField@FlagsPushButton
13345 \HyField@FlagsSubmit
13346 \ifFld@hidden\def\Fld@width{1sp}\fi
13347 \Hy@escapeform\PDFForm@Submit
13348 \HyField@AdvanceAnnotCount
13349 \pdfmark[\MakeButtonField{#2}]{%
13350 pdfmark=/ANN,%
13351 objdef=submit\HyField@TheAnnotCount,%
13352 Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}%
13353 }%
13354 \HyField@AddToFields{submit}%
13355 \endgroup
13356 }
13357 \def\@Reset[#1]#2{%
13358 \def\Fld@width{\DefaultWidthofReset}%
13359 \def\Fld@height{\DefaultHeightofReset}%
13360 \begingroup
13361 \expandafter\HyField@SetKeys\expandafter{%
13362 \DefaultOptionsofReset,#1%
13363 }%

```

```

13364 \leavevmode
13365 \ifHy@pdfa
13366 \Hy@Error{%
13367     PDF/A: Reset action is prohibited%
13368 } \@ehc
13369 \MakeButtonField{#2}%
13370 \else
13371 \HyField@FlagsPushButton
13372 \ifFld@hidden\def\Fld@width{1sp}\fi
13373 \Hy@escapeform\PDFForm@Reset
13374 \HyField@AdvanceAnnotCount
13375 \pdfmark[\MakeButtonField{#2}]{%
13376     pdfmark=/ANN,%
13377     objdef=reset\HyField@TheAnnotCount,%
13378     Raw={\PDFForm@Reset}%
13379 }%
13380 \HyField@AddToFields{reset}%
13381 \fi
13382 \endgroup
13383 }%
13384 \def\@CheckBox[#1]#2{% parameters, label
13385 \def\Fld@name{#2}%
13386 \def\Fld@default{0}%
13387 \begingroup
13388 \def\Fld@width{\DefaultWidthofCheckBox}%
13389 \def\Fld@height{\DefaultHeightofCheckBox}%
13390 \expandafter\HyField@SetKeys\expandafter{%
13391     \DefaultOptionsofCheckBox,#1%
13392 }%
13393 \HyField@FlagsCheckBox
13394 \ifFld@hidden\def\Fld@width{1sp}\fi
13395 \HyField@AdvanceAnnotCount
13396 \LayoutCheckField{#2}{%
13397     \leavevmode
13398     \Hy@escapeform\PDFForm@Check
13399     \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
13400         pdfmark=/ANN,%
13401         objdef=check\HyField@TheAnnotCount,%
13402         Raw={\PDFForm@Check}%
13403     }%
13404 }%
13405 \HyField@AddToFields{check}%
13406 \endgroup
13407 }
13408 \pdfmark

```

## 48.2 HyperTeX

```

13409 \hypertex
13410 \def\@Form[#1]{%
13411 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13412 }
13413 \let\@endForm\ltx@empty
13414 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13415 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
13416 }
13417 \def\@TextField[#1]#2{% parameters, label
13418 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%

```



```

13419 }
13420 \def\@CheckBox[#1]#2{% parameters, label
13421 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
13422 }
13423 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13424 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
13425 }
13426 \def\@PushButton[#1]#2{% parameters, label
13427 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
13428 }
13429 \def\@Reset[#1]#2{%
13430 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13431 }
13432 \def\@Submit[#1]#2{%
13433 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13434 }
13435 \</hypertex>

```

### 48.3 TeX4ht

```

13436 \*tex4ht
13437 \def\@Form[#1]{%
13438 \kvsetkeys{Form}{#1}%
13439 \HCode{<form action="\Form@action" method="\Form@method">}%
13440 }
13441 \def\@endForm{\HCode{</form>}}
13442 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13443 \Hy@Message{Sorry, TeX4ht does not support gauges}%
13444 }
13445 \def\@TextField[#1]#2{% parameters, label
13446 \let\Hy@reserved@a\@empty
13447 \def\Fld@name{#2}%
13448 \let\Fld@default\ltx@empty
13449 \bgroup
13450 \Field@toks={ }%
13451 \kvsetkeys{Field}{#1}%
13452 \HCode{<label for="\Fld@name">#2</label>}%
13453 \ifFld@password
13454 \@@PasswordField
13455 \else
13456 \@@TextField
13457 \fi
13458 \egroup
13459 }
13460 \def\@@PasswordField{%
13461 \HCode{%
13462 <input type="password" %
13463 id="\Fld@name" %
13464 name="\Fld@name" %
13465 \ifFld@hidden type="hidden" \fi
13466 value="\Fld@default" %
13467 \the\Field@toks
13468 >%
13469 }%
13470 }
13471 \def\@@TextField{%
13472 \ifFld@multiline
13473 \HCode{<textarea %

```

```

13474     \ifFld@readonly readonly \fi
13475     id="\Fld@name" %
13476     name="\Fld@name" %
13477     \ifFld@hidden type="hidden" \fi
13478     \the\Field@toks>%
13479 }%
13480 \Fld@default
13481 \HCode{</textarea>}%
13482 \else
13483 \HCode{<input type="textbox" %
13484     \ifFld@readonly readonly \fi
13485     id="\Fld@name" %
13486     name="\Fld@name" %
13487     \ifFld@hidden type="hidden" \fi
13488     value="\Fld@default" %
13489     \the\Field@toks>%
13490 }%
13491 \fi
13492 }
13493 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13494     \def\Fld@name{#2}%
13495     \let\Fld@default\ltx@empty
13496     \let\Hy@reserved@a\relax
13497     \begingroup
13498     \expandafter\Fld@findlength#3\\%
13499     \Field@toks={ }%
13500     \kvsetkeys{Field}{#1}%
13501     #2%
13502     \ifFld@radio
13503         \expandafter\@@Radio#3\\%
13504     \else
13505         \expandafter\@@Menu#3\\%
13506     \fi
13507 \endgroup
13508 }
13509 \def\Fld@findlength#1\\{%
13510     \Fld@menulength=0 %
13511     \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
13512 }
13513 \def\@@Menu#1\\{%
13514     \HCode{<select size="\the\Fld@menulength" %
13515         name="\Fld@name" %
13516         \the\Field@toks>%
13517     }%
13518     \@for\@curropt:=#1\do{%
13519         \expandafter\Fld@checkequals\@curropt==\\%
13520         \HCode{<option %
13521             \ifx\@curropt\Fld@default selected \fi
13522             value="\@currValue">\@currDisplay</option>%
13523         }%
13524     }%
13525     \HCode{</select>}%
13526 }
13527 \def\@@Radio#1\\{%
13528     \@for\@curropt:=#1\do{%
13529         \expandafter\Fld@checkequals\@curropt==\\%
13530         \HCode{<input type="radio" %

```

```

13531 \ifx\@curropt\Fld@default checked \fi
13532 name="\Fld@name" %
13533 value="\@currValue" %
13534 \the\Fld@toks>%
13535 }%
13536 \@currDisplay
13537 }%
13538 }
13539 \def\@PushButton[#1]#2{% parameters, label
13540 \def\Fld@name{#2}%
13541 \bgroup
13542 \Fld@toks={ }%
13543 \kvsetkeys{Field}{#1}%
13544 \HCode{<input type="button" %
13545 name="\Fld@name" %
13546 value="#2" %
13547 \the\Fld@toks>%
13548 }%
13549 \HCode{</button>}%
13550 \egroup
13551 }
13552 \def\@Submit[#1]#2{%
13553 \HCode{<button type="submit">#2</button>}%
13554 }
13555 \def\@Reset[#1]#2{%
13556 \HCode{<button type="reset">#2</button>}%
13557 }
13558 \def\@CheckBox[#1]#2{% parameters, label
13559 \let\Hy@reserved@a\@empty
13560 \def\Fld@name{#2}%
13561 \def\Fld@default{0}%
13562 \bgroup
13563 \Fld@toks={ }%
13564 \kvsetkeys{Field}{#1}%
13565 \HCode{<input type="checkbox" %
13566 \ifFld@checked checked \fi
13567 \ifFld@disabled disabled \fi
13568 \ifFld@readonly readonly \fi
13569 name="\Fld@name" %
13570 \ifFld@hidden type="hidden" \fi
13571 value="\Fld@default" %
13572 \the\Fld@toks>%
13573 #2%
13574 }%
13575 \egroup
13576 }
13577 </tex4ht>

```

## 48.4 pdfTeX

```

13578 <*pdfTeX>
13579 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13580 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
13581 }
13582 \def\MakeFieldObject#1#2{\sbox0{#1}%
13583 \immediate\pdfxform0 %
13584 \expandafter\edef\csname #2Object\endcsname{%
13585 \the\pdflastxform\space 0 R%

```

```

13586 }%
13587 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}}%
13588 }%
13589 \let\HyField@afields\ltx@empty
13590 \let\HyField@cofields\ltx@empty
13591 \begingroup\expandafter\expandafter\expandafter\endgroup
13592 \expandafter\ifx\csname pdflastlink\endcsname\relax
13593 \let\HyField@AddToFields\relax
13594 \PackageInfo{hyperref}{%
13595   You need pdfTeX 1.40.0 for setting the /Fields entry.%
13596   \MessageBreak
13597   Adobe Reader/Acrobat accepts an empty /Field array,%
13598   \MessageBreak
13599   but other PDF viewers might complain%
13600 }%
13601 \else
13602 \let\HyField@AuxAddToFields\ltx@gobble
13603 \let\HyField@AuxAddToCoFields\ltx@gobbletwo
13604 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%

Insertion sort for calculation field list. In case of equal sort keys (for example, if
‘calculatesortkey‘ is not used at all) the keys keep document calling order.
13605 \def\HyField@ABD@AuxAddToCoFields#1#2{%
13606   \begingroup
13607     \Hy@safe@activetrue
13608     \let\ltx@secondoftwo\relax
13609     \ifx\HyField@cofields\ltx@empty
13610       \xdef\HyField@cofields{%
13611         \ltx@secondoftwo{#1}{ #2 0 R}%
13612       }%
13613     \else
13614       \let\ltx@secondoftwo\relax
13615       \def\HyField@AddCoField##1##2##3{%
13616         \if##1\ltx@empty
13617           \ltx@secondoftwo{#1}{ #2 0 R}%
13618           \expandafter\ltx@gobble
13619         \else
13620           \ifnum\pdfstrcmp{##2}{#1}>\ltx@zero
13621             \ltx@secondoftwo{#1}{ #2 0 R}%
13622             \ltx@secondoftwo{##2}{##3}%
13623             \expandafter\expandafter\expandafter\ltx@gobble
13624           \else
13625             \ltx@secondoftwo{##2}{##3}%
13626           \fi
13627         \fi
13628         \HyField@AddCoField
13629       }%
13630       \xdef\HyField@cofields{%
13631         \expandafter\HyField@AddCoField
13632         \HyField@cofields\ltx@empty\ltx@empty\ltx@empty
13633       }%
13634     \fi
13635   \endgroup
13636 }%
13637 \Hy@AtBeginDocument{%
13638   \if@filesw
13639     \immediate\write\@mainaux{%
13640       \string\providecommand\string\HyField@AuxAddToFields[1]{}%

```

```

13641 }%
13642 \immediate\write\@mainaux{%
13643   \string\providecommand\string\HyField@AuxAddToCoFields[2]{}%
13644 }%
13645 \fi
13646 \let\HyField@AfterAuxOpen\@firstofone
13647 \def\HyField@AuxAddToFields#1{%
13648   \xdef\HyField@afields{%
13649     \ifx\HyField@afields\@empty
13650     \else
13651       \HyField@afields
13652     \space
13653   \fi
13654   #1 0 R%
13655 }%
13656 }%
13657 \let\HyField@AuxAddToCoFields\HyField@ABD@AuxAddToCoFields
13658 }%
13659 \def\HyField@AddToFields{%
13660   \expandafter\HyField@@AddToFields\expandafter{%
13661     \the\pdfastlink
13662   }%
13663   \ifx\Fld@calculate@code\ltx@empty
13664   \else
13665     \begingroup
13666     \Hy@safe@activetrue
13667     \edef\Hy@temp{%
13668       \endgroup
13669       \if@filesw
13670         \write\@mainaux{%
13671           \string\HyField@AuxAddToCoFields{%
13672             \Fld@calculate@sortkey
13673           }{%
13674             \the\pdfastlink
13675           }%
13676         }%
13677       \fi
13678     }%
13679     \Hy@temp
13680   \fi
13681 }%
13682 \def\HyField@@AddToFields#1{%
13683   \HyField@AfterAuxOpen{%
13684     \if@filesw
13685       \write\@mainaux{%
13686         \string\HyField@AuxAddToFields{#1}%
13687       }%
13688     \fi
13689   }%
13690 }%
13691 \fi
13692 \def\@Form[#1]{%
13693   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13694   \kvsetkeys{Form}{#1}%
13695   \pdf@ifdraftmode{}{%
13696     \Hy@FormObjects
13697     \ifnum\pdfTeXversion>13 %

```

```

13698 \pdfrefobj\OBJ@pdfdocencoding
13699 \pdfrefobj\OBJ@ZaDb
13700 \pdfrefobj\OBJ@Helv
13701 \fi
13702 \AtVeryEndDocument{%
13703 \immediate\pdfobj{%
13704 <<%
13705 /Fields[\HyField@afields]%
13706 \ifx\HyField@cofields\ltx@empty
13707 \else
13708 /CO[\romannumeral-'\Q\HyField@cofields]%
13709 \fi
13710 /DR<<%
13711 /Font<<%
13712 /ZaDb \OBJ@ZaDb\space 0 R%
13713 /Helv \OBJ@Helv\space 0 R%
13714 >>%
13715 >>%
13716 /DA[/Helv 10 Tf 0 g]%
13717 \ifHy@pdfa
13718 \else
13719 \ifHyField@NeedAppearances
13720 /NeedAppearances true%
13721 \fi
13722 \fi
13723 >>%
13724 }%
13725 \edef\OBJ@acroform{\the\pdfastobj}%
13726 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13727 }%
13728 }%
13729 \MakeFieldObject{%
Same as \ding{123} of package pifont.
13730 \begingroup
13731 \fontfamily{pzd}%
13732 \fontencoding{U}%
13733 \fontseries{m}%
13734 \fontshape{n}%
13735 \selectfont
13736 \char123 %
13737 \endgroup
13738 }{Ding}%
13739 \MakeFieldObject{%
13740 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13741 }{Submit}%
13742 \MakeFieldObject{%
13743 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13744 }{SubmitP}%
13745 }
13746 \let\@endForm\ltx@empty
13747 \let\HyAnn@AbsPageLabel\ltx@empty
13748 \let\Fld@pageobjref\ltx@empty
13749 \ltx@ifUndefined{pdfpageref}{%
13750 }{%
13751 \ltx@ifpackageloaded{zref-abspage}{%
13752 \newcount\HyAnn@Count
13753 \HyAnn@Count=\ltx@zero

```

```

13754 \def\HyAnn@AbsPageLabel{%
13755 \global\advance\HyAnn@Count by\ltx@one
13756 \zref@labelbyprops{HyAnn@\the\HyAnn@Count}{abspage}%
13757 \zref@refused{HyAnn@\the\HyAnn@Count}%
13758 }%
13759 \def\Fld@pageobjref{%
13760 \zref@ifrefundefined{HyAnn@\the\HyAnn@Count}{%
13761 }{%
13762 \zref@ifrefcontainsprop{HyAnn@\the\HyAnn@Count}{abspage}{%
13763 /P \pdfpageref
13764 \zref@extractdefault{HyAnn@\the\HyAnn@Count}{abspage}{1} %
13765 \space 0 R%
13766 }{%
13767 }%
13768 }%
13769 }%
13770 }{%
13771 }%
13772 }

13773 \def\@TextField[#1]#2{% parameters, label
13774 \def\Fld@name{#2}%
13775 \let\Fld@default\ltx@empty
13776 \let\Fld@value\@empty
13777 \def\Fld@width{\DefaultWidthofText}%
13778 \def\Fld@height{%
13779 \ifFld@multiline
13780 \DefaultHeightofTextMultiline
13781 \else
13782 \DefaultHeightofText
13783 \fi
13784 }%
13785 \begingroup
13786 \expandafter\HyField@SetKeys\expandafter{%
13787 \DefaultOptionsofText,#1%
13788 }%
13789 \PDFForm@Name
13790 \HyField@FlagsText
13791 \ifFld@hidden\def\Fld@width{1sp}\fi
13792 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13793 \LayoutTextField{#2}{%
13794 \leavevmode
13795 \HyAnn@AbsPageLabel
13796 \Hy@escapeform\PDFForm@Text
13797 \pdfstartlink user {\PDFForm@Text}\relax
13798 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13799 \HyField@AddToFields
13800 }%
13801 \endgroup
13802 }

13803 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13804 \def\Fld@name{#2}%
13805 \let\Fld@default\relax
13806 \let\Fld@value\relax
13807 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13808 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13809 \begingroup
13810 \Fld@menulength=0 %

```

```

13811 \@tempdima\z@
13812 \@for\@curropt:=#3\do{%
13813   \expandafter\Fld@checkequals\@curropt==\\%
13814   \Hy@StepCount\Fld@menulength
13815   \settowidth{\@tempdimb}{\@currDisplay}%
13816   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13817 }%
13818 \advance\@tempdima by 15\p@
13819 \begingroup
13820   \HyField@SetKeys{#1}%
13821 \edef\x{\endgroup
13822   \noexpand\expandafter
13823   \noexpand\HyField@SetKeys
13824   \noexpand\expandafter{%
13825     \expandafter\noexpand\csname DefaultOptionsof%
13826     \ifFld@radio
13827       Radio%
13828     \else
13829       \ifFld@combo
13830         \ifFld@popdown
13831           PopdownBox%
13832         \else
13833           ComboBox%
13834         \fi
13835       \else
13836         ListBox%
13837       \fi
13838     \fi
13839     \endcsname
13840   }%
13841 }\x
13842 \HyField@SetKeys{#1}%
13843 \PDFForm@Name
13844 \ifFld@hidden\def\Fld@width{1sp}\fi
13845 \ifx\Fld@value\relax
13846   \let\Fld@value\Fld@default
13847 \fi
13848 \LayoutChoiceField{#2}{%
13849   \ifFld@radio
13850     \HyField@FlagsRadioButton
13851     \@@Radio{#3}%
13852   \else
13853     \begingroup
13854       \HyField@FlagsChoice
13855       \ifdim\Fld@width<\@tempdima
13856         \ifdim\@tempdima<1cm\@tempdima1cm\fi
13857       \edef\Fld@width{\the\@tempdima}%
13858       \fi
13859       \ifFld@combo
13860       \else
13861         \@tempdima=\the\Fld@menulength\Fld@charsize
13862         \advance\@tempdima by \Fld@borderwidth bp %
13863         \advance\@tempdima by \Fld@borderwidth bp %
13864         \edef\Fld@height{\the\@tempdima}%
13865       \fi
13866       \@@ListBox{#3}%
13867     \endgroup

```



```

13868 \fi
13869 }%
13870 \endgroup
13871 }
13872 \def\@@Radio#1{%
13873 \Fld@listcount=0 %
13874 \EdefEscapeName\Fld@default{\Fld@default}%
13875 \@for\@curropt:=#1\do{%
13876 \expandafter\Fld@checkequals\@curropt==\%
13877 \EdefEscapeName\@currValue{\@currValue}%
13878 \Hy@StepCount\Fld@listcount
13879 \@currDisplay\space
13880 \leavevmode
13881 \HyAnn@AbsPageLabel
13882 \Hy@escapeform\PDFForm@Radio
13883 \pdfstartlink user {%
13884 \PDFForm@Radio
13885 /AP<<%
13886 /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.

```

13887 \/\@currValue\space \DingObject
13888 >>%
13889 >>%
13890 }%
13891 \relax
13892 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13893 \ifnum\Fld@listcount=1 %
13894 \HyField@AddToFields
13895 \fi
13896 \space % deliberate space between radio buttons
13897 }%
13898 }
13899 \newcount\Fld@listcount
13900 \def\@@Listbox#1{%
13901 \HyField@PDFChoices{#1}%
13902 \leavevmode
13903 \HyAnn@AbsPageLabel
13904 \Hy@escapeform\PDFForm@List
13905 \pdfstartlink user {\PDFForm@List}\relax
13906 \MakeChoiceField{\Fld@width}{\Fld@height}%
13907 \pdfendlink
13908 \HyField@AddToFields
13909 }
13910 \def\@PushButton[#1]#2{% parameters, label
13911 \def\Fld@name{#2}%
13912 \begingroup
13913 \expandafter\HyField@SetKeys\expandafter{%
13914 \DefaultOptionsofPushButton,#1%
13915 }%
13916 \PDFForm@Name
13917 \ifHy@pdfa
13918 \Hy@Error{%
13919 PDF/A: Push button with JavaScript is prohibited%
13920 }\@ehc
13921 \LayoutPushButtonField{%

```

```

13922     \leavevmode
13923     \MakeButtonField{#2}%
13924 }%
13925 \else
13926     \HyField@FlagsPushButton
13927     \ifFld@hidden\def\Fld@width{1sp}\fi
13928     \LayoutPushButtonField{%
13929         \leavevmode
13930         \HyAnn@AbsPageLabel
13931         \Hy@escapeform\PDFForm@Push
13932         \pdfstartlink user {\PDFForm@Push}\relax
13933         \MakeButtonField{#2}%
13934         \pdfendlink
13935         \HyField@AddToFields
13936     }%
13937 \fi
13938 \endgroup
13939 }
13940 \def\@Submit[#1]#2{%
13941     \def\Fld@width{\DefaultWidthofSubmit}%
13942     \def\Fld@height{\DefaultHeightofSubmit}%
13943     \begingroup
13944         \expandafter\HyField@SetKeys\expandafter{%
13945             \DefaultOptionsofSubmit,#1%
13946         }%
13947         \HyField@FlagsPushButton
13948         \HyField@FlagsSubmit
13949         \ifFld@hidden\def\Fld@width{1sp}\fi
13950         \leavevmode
13951         \HyAnn@AbsPageLabel
13952         \Hy@escapeform\PDFForm@Submit
13953         \pdfstartlink user {%
13954             \PDFForm@Submit
13955             /AP<</N \SubmitObject/D \SubmitPObject>>%
13956         }%
13957         \relax
13958         \MakeButtonField{#2}%
13959         \pdfendlink
13960         \HyField@AddToFields
13961     \endgroup
13962 }
13963 \def\@Reset[#1]#2{%
13964     \def\Fld@width{\DefaultWidthofReset}%
13965     \def\Fld@height{\DefaultHeightofReset}%
13966     \begingroup
13967         \expandafter\HyField@SetKeys\expandafter{%
13968             \DefaultOptionsofReset,#1%
13969         }%
13970         \leavevmode
13971         \ifHy@pdfa
13972             \Hy@Error{%
13973                 PDF/A: Reset action is prohibited%
13974             }\@ehc
13975             \MakeButtonField{#2}%
13976         \else
13977             \HyField@FlagsPushButton
13978             \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

13979 \HyAnn@AbsPageLabel
13980 \Hy@escapeform\PDFForm@Reset
13981 \pdfstartlink user {\PDFForm@Reset}\relax
13982 \MakeButtonField{#2}%
13983 \pdfendlink
13984 \HyField@AddToFields
13985 \fi
13986 \endgroup
13987 }
13988 \def\@CheckBox[#1]#2{% parameters, label
13989 \def\Fld@name{#2}%
13990 \def\Fld@default{0}%
13991 \begingroup
13992 \def\Fld@width{\DefaultWidthofCheckBox}%
13993 \def\Fld@height{\DefaultHeightofCheckBox}%
13994 \expandafter\HyField@SetKeys\expandafter{%
13995 \DefaultOptionsofCheckBox,#1%
13996 }%
13997 \PDFForm@Name
13998 \HyField@FlagsCheckBox
13999 \ifFld@hidden\def\Fld@width{1sp}\fi
14000 \LayoutCheckField{#2}{%
14001 \leavevmode
14002 \HyAnn@AbsPageLabel
14003 \Hy@escapeform\PDFForm@Check
14004 \pdfstartlink user {\PDFForm@Check}\relax
14005 \MakeCheckField{\Fld@width}{\Fld@height}%
14006 \pdfendlink
14007 \HyField@AddToFields
14008 }%
14009 \endgroup
14010 }
14011 \def\Hy@FormObjects{%
14012 \pdfobj {%
14013 <<%
14014 /Type/Encoding%
14015 /Differences%
14016 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
14017 /ring/tilde %
14018 39/quotesingle %
14019 96/grave %
14020 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
14021 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
14022 /quotedblbase/quotedblleft/quotedblright/quoteleft%
14023 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
14024 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
14025 164/currency %
14026 166/brokenbar %
14027 168/dieresis/copyright/ordfeminine %
14028 172/logicalnot/.notdef/registered/macron/degree/plusminus%
14029 /twosuperior/threesuperior/acute/mu %
14030 183/periodcentered/cedilla/onesuperior/ordmasculine %
14031 188/onequarter/onehalf/threequarters %
14032 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
14033 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
14034 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
14035 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%

```

```

14036      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
14037      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
14038      /cedilla/egrave/eacute/ecircumflex/edieresis/igrave%
14039      /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
14040      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
14041      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
14042    ]%
14043    >>%
14044  }%
14045  \xdef\OBJ@pdfdocencoding{\the\pdfastobj}%
14046  \pdfobj{%
14047    <<%
14048      /Type/Font%
14049      /Subtype/Type1%
14050      /Name/ZaDb%
14051      /BaseFont/ZapfDingbats%
14052    >>%
14053  }%
14054  \xdef\OBJ@ZaDb{\the\pdfastobj}%
14055  \pdfobj{%
14056    <<%
14057      /Type/Font%
14058      /Subtype/Type1%
14059      /Name/Helv%
14060      /BaseFont/Helvetica%
14061      /Encoding \OBJ@pdfdocencoding\space 0 R%
14062    >>%
14063  }%
14064  \xdef\OBJ@Helv{\the\pdfastobj}%
14065  \global\let\Hy@FormObjects\relax
14066  }
14067  </pdfTeX>

```

## 48.5 dvipdfm, xetex

D. P. Story adapted the pdf<sub>T</sub>E<sub>X</sub> forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
14068 <(*dvipdfm | xetex>
```

\@Gauge

```

14069 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
14070   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
14071 }

```

\@Form

```

14072 \def\@Form[#1]{%
14073   \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
14074   \kvsetkeys{Form}{#1}%
14075   \Hy@FormObjects
14076   \@pdfm@mark{obj @afields []}%
14077   \@pdfm@mark{obj @corder []}%
14078   \@pdfm@mark{%
14079     obj @aform <<%
14080       /Fields @afields%
14081       /DR<<%
14082       /Font<<%
14083       /ZaDb @OBJZaDb%
14084       /Helv @OBJHelv%

```

```

14085     >>%
14086     >>%
14087     /DA(/Helv 10 Tf 0 g)%
14088     /CO @corder%
14089     \ifHy@pdfa
14090     \else
14091     \ifHyField@NeedAppearances
14092     /NeedAppearances true%
14093     \fi
14094     \fi
14095     >>%
14096     }%
14097     \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
14098 }

```

\@endForm

```

14099 \let\@endForm\ltx@empty

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

14100 \def\dvipdfm@setdim{%
14101   height \the\ht\pdfm@box\space
14102   width \the\wd\pdfm@box\space
14103   depth \the\dp\pdfm@box\space
14104 }

```

\HyField@AnnotCount

```

14105 \newcount\HyField@AnnotCount
14106 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

14107 \def\HyField@AdvanceAnnotCount{%
14108   \global\advance\HyField@AnnotCount\@ne
14109 }

```

\HyField@TheAnnotCount

```

14110 \def\HyField@TheAnnotCount{%
14111   \the\HyField@AnnotCount
14112 }

```

\Fld@pageobjref

```

14113 \def\Fld@pageobjref{/P @thispage}%

```

\HyField@AddToFields

```

14114 \def\HyField@AddToFields#1{%
14115   \@pdfm@mark{put @afields @#1\HyField@TheAnnotCount}%
14116   \ifx\Fld@calculate@code\ltx@empty
14117   \else
14118   \@pdfm@mark{put @corder @#1\HyField@TheAnnotCount}%
14119   \fi
14120 }

```

\@TextField

```

14121 \def\@TextField[#1]#2{% parameters, label
14122   \def\Fld@name{#2}%
14123   \let\Fld@default\ltx@empty
14124   \let\Fld@value\@empty

```

```

14125 \def\Fld@width{\DefaultWidthofText}%
14126 \def\Fld@height{%
14127   \ifFld@multiline
14128     \DefaultHeightofTextMultiline
14129   \else
14130     \DefaultHeightofText
14131   \fi
14132 }%
14133 \begingroup
14134 \expandafter\HyField@SetKeys\expandafter{%
14135   \DefaultOptionsofText,#1%
14136 }%
14137 \PDFForm@Name
14138 \HyField@FlagsText
14139 \ifFld@hidden\def\Fld@width{1sp}\fi
14140 \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
14141 \setbox\pdfm@box=\hbox{%
14142   \MakeTextField{\Fld@width}{\Fld@height}%
14143 }%
14144 \HyField@AdvanceAnnotCount
14145 \LayoutTextField{#2}{%
14146   \leavevmode
14147   \Hy@escapeform\PDFForm@Text
14148   \@pdfm@mark{%
14149     ann @text\HyField@TheAnnotCount\space
14150     \dvi pdfm@setdim << \PDFForm@Text >>%
14151   }%
14152 }%
14153 \unhbox\pdfm@box
14154 \HyField@AddToFields{text}%
14155 % record in @afields array
14156 \endgroup
14157 }

```

#### \@ChoiceMenu

```

14158 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
14159   \def\Fld@name{#2}%
14160   \let\Fld@default\relax
14161   \let\Fld@value\relax
14162   \def\Fld@width{\DefaultWidthofChoiceMenu}%
14163   \def\Fld@height{\DefaultHeightofChoiceMenu}%
14164   \begingroup
14165     \Fld@menulength=0 %
14166     \@tempdima\z@
14167     \@for\@curropt:=#3\do{%
14168       \expandafter\Fld@checkequals\@curropt==\%
14169       \Hy@StepCount\Fld@menulength
14170       \settowidth{\@tempdimb}{\@currDisplay}%
14171       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
14172     }%
14173     \advance\@tempdima by 15\p@
14174     \begingroup
14175       \HyField@SetKeys{#1}%
14176     \edef\x{\endgroup
14177       \noexpand\expandafter
14178       \noexpand\HyField@SetKeys
14179       \noexpand\expandafter{%
14180         \expandafter\noexpand\curname DefaultOptionsof%

```

```

14181         \ifFld@radio
14182         Radio%
14183     \else
14184         \ifFld@combo
14185         \ifFld@popdown
14186         PopdownBox%
14187     \else
14188         ComboBox%
14189     \fi
14190 \else
14191     ListBox%
14192 \fi
14193 \fi
14194 \endcsname
14195 }%
14196 }\x
14197 \HyField@SetKeys{#1}%
14198 \PDFForm@Name
14199 \ifFld@hidden\def\Fld@width{1sp}\fi
14200 \ifx\Fld@value\relax
14201     \let\Fld@value\Fld@default
14202 \fi
14203 \LayoutChoiceField{#2}{%
14204     \ifFld@radio
14205     \HyField@FlagsRadioButton
14206     \@@Radio{#3}%
14207 \else
14208     \begingroup
14209     \HyField@FlagsChoice
14210     \ifdim\Fld@width<\@tempdima
14211     \ifdim\@tempdima<1cm\@tempdima1cm\fi
14212     \edef\Fld@width{\the\@tempdima}%
14213     \fi
14214     \ifFld@combo
14215     \else
14216     \@tempdima=\the\Fld@menulength\Fld@charsize
14217     \advance\@tempdima by \Fld@borderwidth bp %
14218     \advance\@tempdima by \Fld@borderwidth bp %
14219     \edef\Fld@height{\the\@tempdima}%
14220     \fi
14221     \@@ListBox{#3}%
14222     \endgroup
14223 \fi
14224 }%
14225 \endgroup
14226 }

\@@Radio
14227 \def\@@Radio#1{%
14228     \Fld@listcount=0 %
14229     \EdefEscapeName\Fld@default{\Fld@default}%
14230     \setbox\pdfm@box=\hbox{%
14231         \MakeRadioField{\Fld@width}{\Fld@height}%
14232     }%
14233     \@for\@curropt:=#1\do{%
14234         \expandafter\Fld@checkequals\@curropt==\\%
14235         \EdefEscapeName\@currValue{\@currValue}%
14236         \Hy@StepCount\Fld@listcount

```

```

14237 \currDisplay\space
14238 \leavevmode
14239 \Hy@escapeform\PDFForm@Radio
14240 \ifnum\Fld@listcount=1 %
14241 \HyField@AdvanceAnnotCount
14242 \fi
14243 \@pdfm@mark{%
14244 ann %
14245 \ifnum\Fld@listcount=1 %
14246 @radio\HyField@TheAnnotCount%
14247 \space
14248 \fi
14249 \dvipdfm@setdim
14250 <<%
14251 \PDFForm@Radio
14252 /AP<</N<</\@currValue /null>>>>%
14253 >>%
14254 }%
14255 \unhcopy\pdfm@box\space% deliberate space between radio buttons
14256 \ifnum\Fld@listcount=1 %
14257 \HyField@AddToFields{radio}%
14258 \fi
14259 }%
14260 }

\Fld@listcount
14261 \newcount\Fld@listcount

@@@Listbox
14262 \def\@@Listbox#1{%
14263 \HyField@PDFChoices{#1}%
14264 \setbox\pdfm@box=\hbox{%
14265 \MakeChoiceField{\Fld@width}{\Fld@height}%
14266 }%
14267 \leavevmode
14268 \Hy@escapeform\PDFForm@List
14269 \HyField@AdvanceAnnotCount
14270 \@pdfm@mark{%
14271 ann @list\HyField@TheAnnotCount\space
14272 \dvipdfm@setdim
14273 <<\PDFForm@List>>%
14274 }%
14275 \unhbox\pdfm@box
14276 \HyField@AddToFields{list}%
14277 }

@@PushButton
14278 \def\@PushButton[#1]#2{% parameters, label
14279 \def\Fld@name{#2}%
14280 \begingroup
14281 \expandafter\HyField@SetKeys\expandafter{%
14282 \DefaultOptionsofPushButton,#1%
14283 }%
14284 \PDFForm@Name
14285 \ifHy@pdfa
14286 \Hy@Error{%
14287 PDF/A: Push button with JavaScript is prohibited%

```



```

14288 } \@ehc
14289 \LayoutPushButtonField{%
14290 \leavevmode
14291 \MakeButtonField{#2}%
14292 }%
14293 \else
14294 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14295 \HyField@FlagsPushButton
14296 \ifFld@hidden\def\Fld@width{1sp}\fi
14297 \HyField@AdvanceAnnotCount
14298 \LayoutPushButtonField{%
14299 \leavevmode
14300 \Hy@escapeform\PDFForm@Push
14301 \@pdfm@mark{%
14302 ann @push\HyField@TheAnnotCount\space
14303 \dvipdfm@setdim
14304 <<\PDFForm@Push>>%
14305 }%
14306 }%
14307 \unhbox\pdfm@box
14308 \HyField@AddToFields{push}%
14309 \fi
14310 \endgroup
14311 }

\@Submit
14312 \def\@Submit[#1]#2{%
14313 \def\Fld@width{\DefaultWidthofSubmit}%
14314 \def\Fld@height{\DefaultHeightofSubmit}%
14315 \begingroup
14316 \expandafter\HyField@SetKeys\expandafter{%
14317 \DefaultOptionsofSubmit,#1%
14318 }%
14319 \HyField@FlagsPushButton
14320 \HyField@FlagsSubmit
14321 \ifFld@hidden\def\Fld@width{1sp}\fi
14322 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14323 \leavevmode
14324 \Hy@escapeform\PDFForm@Submit
14325 \HyField@AdvanceAnnotCount
14326 \@pdfm@mark{%
14327 ann @submit\HyField@TheAnnotCount\space
14328 \dvipdfm@setdim
14329 <<\PDFForm@Submit>>%
14330 }%
14331 \unhbox\pdfm@box%
14332 \HyField@AddToFields{submit}%
14333 \endgroup
14334 }

\@Reset
14335 \def\@Reset[#1]#2{%
14336 \def\Fld@width{\DefaultWidthofReset}%
14337 \def\Fld@height{\DefaultHeightofReset}%
14338 \begingroup
14339 \expandafter\HyField@SetKeys\expandafter{%
14340 \DefaultOptionsofReset,#1%

```

```

14341 }%
14342 \leavevmode
14343 \ifHy@pdfa
14344   \Hy@Error{%
14345     PDF/A: Reset action is prohibited%
14346   }\@ehc
14347   \MakeButtonField{#2}%
14348 \else
14349   \HyField@FlagsPushButton
14350   \ifFld@hidden\def\Fld@width{1sp}\fi
14351   \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14352   \Hy@escapeform\PDFForm@Reset
14353   \HyField@AdvanceAnnotCount
14354   \@pdfm@mark{%
14355     ann @reset\HyField@TheAnnotCount\space
14356     \dvi pdfm@setdim
14357     <<\PDFForm@Reset>>%
14358   }%
14359   \unhbox\pdfm@box
14360   \HyField@AddToFields{reset}%
14361 \fi
14362 \endgroup
14363 }

```

#### \@CheckBox

```

14364 \def\@CheckBox[#1]#2{% parameters, label
14365   \def\Fld@name{#2}%
14366   \def\Fld@default{0}%
14367   \begingroup
14368     \def\Fld@width{\DefaultWidthofCheckBox}%
14369     \def\Fld@height{\DefaultHeightofCheckBox}%
14370     \expandafter\HyField@SetKeys\expandafter{%
14371       \DefaultOptionsofCheckBox,#1%
14372     }%
14373     \PDFForm@Name
14374     \HyField@FlagsCheckBox
14375     \ifFld@hidden\def\Fld@width{1sp}\fi
14376     \setbox\pdfm@box=\hbox{%
14377       \MakeCheckField{\Fld@width}{\Fld@height}%
14378     }%
14379     \HyField@AdvanceAnnotCount
14380     \LayoutCheckField{#2}%
14381     \leavevmode
14382     \Hy@escapeform\PDFForm@Check
14383     \@pdfm@mark{%
14384       ann @check\HyField@TheAnnotCount\space
14385       \dvi pdfm@setdim
14386       <<\PDFForm@Check>>%
14387     }%
14388     \unhbox\pdfm@box
14389     \HyField@AddToFields{check}%
14390   }%
14391 \endgroup
14392 }

14393 \def\Hy@FormObjects{%
14394   \@pdfm@mark{obj @OBJpdfdocencoding%
14395     <<%

```

```

14396 /Type/Encoding%
14397 /Differences[%
14398   24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
14399   39/quotesingle %
14400   96/grave %
14401  128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
14402   /fraction/guilsinglleft/guilsinglright/minus/perthousand%
14403   /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
14404   /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
14405   /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
14406  164/currency %
14407  166/brokenbar %
14408  168/dieresis/copyright/ordfeminine %
14409  172/logicalnot/.notdef/registered/macron/degree/plusminus%
14410   /twosuperior/threesuperior/acute/mu %
14411  183/periodcentered/cedilla/onesuperior/ordmasculine %
14412  188/onequarter/onehalf/threequarters %
14413  192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
14414   /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
14415   /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
14416   /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
14417   /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
14418   /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
14419   /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
14420   /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
14421   /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
14422   /thorn/ydieresis%
14423   ]%
14424   >>%
14425 }%
14426 \@pdfmark{obj @OBJZaDb%
14427   <<%
14428   /Type/Font%
14429   /Subtype/Type1%
14430   /Name/ZaDb%
14431   /BaseFont/ZapfDingbats%
14432   >>%
14433 }%
14434 \@pdfmark{obj @OBJHelv%
14435   <<%
14436   /Type/Font%
14437   /Subtype/Type1%
14438   /Name/Helv%
14439   /BaseFont/Helvetica%
14440   /Encoding @OBJpdfdocencoding%
14441   >>%
14442 }%
14443 \global\let\Hy@FormObjects\relax
14444 }
14445 </dvipdfm | xetex>

```

## 48.6 Common forms part

```

14446 <*\pdfform>

\Fld@pageobjref

14447 \providecommand*{\Fld@pageobjref}{}

```

\Hy@escapestring

```
14448 \begingroup\expandafter\expandafter\expandafter\endgroup
14449 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
14450 \let\Hy@escapestring\@firstofone
14451 \def\Hy@escapeform#1{%
14452   \ifHy@pdfescapeform
14453     \def\Hy@escapestring##1{%
14454       \noexpand\Hy@escapestring{\noexpand##1}%
14455     }%
14456     \edef\Hy@temp{#1}%
14457     \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
14458   \def\Hy@escapestring##1{%
14459     \ifundefined{Hy@esc@\string##1}{%
14460       ##1%
14461       \ThisShouldNotHappen
14462     }{%
14463       \csname Hy@esc@\string##1\endcsname
14464     }%
14465   }%
14466 \else
14467   \let\Hy@escapestring\@firstofone
14468 \fi
14469 }%
14470 \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
14471   \ifx\#3\%
14472     \else
14473       \expandafter
14474       \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
14475       \ltx@ReturnAfterFi{%
14476         \Hy@@@escapeform#3\@nil
14477       }%
14478     \fi
14479   }%
14480 \else
14481   \def\Hy@escapeform#1{%
14482     \ifHy@pdfescapeform
14483       \let\Hy@escapestring\pdfescapestring
14484     \else
14485       \let\Hy@escapestring\@firstofone
14486     \fi
14487   }%
14488   \Hy@escapeform{}%
14489 \fi
```

\PDFForm@Name

```
14490 \def\PDFForm@Name{%
14491   \PDFForm@@@Name\Fld@name
14492   \ifx\Fld@altname\relax
14493   \else
14494     \PDFForm@@@Name\Fld@altname
14495   \fi
14496   \ifx\Fld@mappingname\relax
14497   \else
14498     \PDFForm@@@Name\Fld@mappingname
14499   \fi
14500 }
```

\PDFForm@@Name

```
14501 \def\PDFForm@@Name#1{%
14502   \begingroup
14503   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
14504     \ifHy@unicode
14505       \Hy@unicodedefalse
14506     \fi
14507   \fi
14508   \HyPsd@XeTeXBigCharstrue
14509   \pdfstringdef\Hy@gtemp#1%
14510 \endgroup
14511 \let#1\Hy@gtemp
14512 }
```

\Fld@additionalactions

```
14513 \def\Fld@@additionalactions{%
K input (keystroke) format
14514   \ifx\Fld@keystroke@code\@empty
14515   \else
14516     /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
14517   \fi
F display format
14518   \ifx\Fld@format@code\@empty
14519   \else
14520     /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
14521   \fi
V validation
14522   \ifx\Fld@validate@code\@empty
14523   \else
14524     /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
14525   \fi
C calculation
14526   \ifx\Fld@calculate@code\@empty
14527   \else
14528     /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
14529   \fi
Fo receiving the input focus
14530   \ifx\Fld@onfocus@code\@empty
14531   \else
14532     /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
14533   \fi
Bl losing the input focus (blurred)
14534   \ifx\Fld@onblur@code\@empty
14535   \else
14536     /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
14537   \fi
D pressing the mouse button (down)
14538   \ifx\Fld@onmousedown@code\@empty
14539   \else
14540     /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
14541   \fi
```

U releasing the mouse button (up)

```
14542 \ifx\Fld@onmouseup@code\@empty
14543 \else
14544 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
14545 \fi
```

E cursor enters the annotation's active area.

```
14546 \ifx\Fld@onenter@code\@empty
14547 \else
14548 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
14549 \fi
```

X cursor exits the annotation's active area.

```
14550 \ifx\Fld@onexit@code\@empty
14551 \else
14552 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
14553 \fi
14554 }
14555 \def\Fld@additionalactions{%
14556 \if-\Fld@@additionalactions-%
14557 \else
14558 \ifHy@pdfa
14559 \else
14560 /AA<<\Fld@@additionalactions>>%
14561 \fi
14562 \fi
14563 }
```

\Fld@annotnames

```
14564 \def\Fld@annotnames{%
14565 /T(\Fld@name)%
14566 \ifx\Fld@altname\relax
14567 \else
14568 /TU(\Fld@altname)%
14569 \fi
14570 \ifx\Fld@mappingname\relax
14571 \else
14572 /TM(\Fld@mappingname)%
14573 \fi
14574 }
```

\PDFForm@Check

```
14575 \def\PDFForm@Check{%
14576 /Subtype/Widget%
14577 \Fld@annotflags
14578 \Fld@pageobjref
14579 \Fld@annotnames
14580 /FT/Btn%
14581 \Fld@flags
14582 /Q \Fld@align
14583 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
14584 /MK<<%
14585 \ifnum\Fld@rotation=z@
14586 \else
14587 /R \Fld@rotation
14588 \fi
14589 \ifx\Fld@bordercolor\relax
14590 \else
```

```

14591      /BC[\Fld@bordercolor]%
14592      \fi
14593      \ifx\Fld@bcolor\relax
14594      \else
14595      /BG[\Fld@bcolor]%
14596      \fi
14597      /CA(\Hy@escapestring{\Fld@cbsymbol})%
14598  >>%
14599  /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14600      \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14601  /H/P%
14602  \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi
14603  \Fld@additionalactions
14604  }

```

\PDFForm@Push

```

14605 \ifHy@pdfa
14606 \else
14607   \def\PDFForm@Push{%
14608     /Subtype/Widget%
14609     \Fld@annotflags
14610     \Fld@pageobjref
14611     \Fld@annotnames
14612     /FT/Btn%
14613     \Fld@flags
14614     /H/P%
14615     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14616     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14617       \ifx\Fld@bordercolor\relax\else 1\fi
14618       \space
14619     \else
14620     /MK<<%
14621     \ifnum\Fld@rotation=\z@
14622     \else
14623     /R \Fld@rotation
14624     \fi
14625     \ifx\Fld@bordercolor\relax
14626     \else
14627     /BC[\Fld@bordercolor]%
14628     \fi
14629     >>%
14630     \fi
14631     /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14632     \Fld@additionalactions
14633   }%
14634 \fi

```

\PDFForm@List

```

14635 \def\PDFForm@List{%
14636   /Subtype/Widget%
14637   \Fld@annotflags
14638   \Fld@pageobjref
14639   \Fld@annotnames
14640   /FT/Ch%
14641   \Fld@flags
14642   /Q \Fld@align
14643   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%

```

```

14644 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14645     \ifx\Fld@bordercolor\relax\else 1\fi
14646     \ifx\Fld@bcolor\relax \else 1\fi
14647     \space
14648 \else
14649     /MK<<%
14650     \ifnum\Fld@rotation=\z@
14651     \else
14652     /R \Fld@rotation
14653     \fi
14654     \ifx\Fld@bordercolor\relax
14655     \else
14656     /BC[\Fld@bordercolor]%
14657     \fi
14658     \ifx\Fld@bcolor\relax
14659     \else
14660     /BG[\Fld@bcolor]%
14661     \fi
14662     >>%
14663 \fi
14664 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14665     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14666 \Fld@choices
14667 \Fld@additionalactions
14668 }

```

\PDFForm@Radio

```

14669 \def\PDFForm@Radio{%
14670 /Subtype/Widget%
14671 \Fld@annotflags
14672 \Fld@pageobjref
14673 \Fld@annotnames
14674 /FT/Btn%
14675 \Fld@flags
14676 /H/P%
14677 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14678 /MK<<%
14679     \ifnum\Fld@rotation=\z@
14680     \else
14681     /R \Fld@rotation
14682     \fi
14683     \ifx\Fld@bordercolor\relax
14684     \else
14685     /BC[\Fld@bordercolor]%
14686     \fi
14687     \ifx\Fld@bcolor\relax
14688     \else
14689     /BG[\Fld@bcolor]%
14690     \fi
14691 /CA(\Hy@escapestring{\Fld@radiosymbol})%
14692 >>%
14693 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14694     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14695 \ifx\@currValue\Fld@default
14696 /V/\Fld@default
14697 /DV/\Fld@default
14698 \else
14699 /V/Off%

```



```

14700 /DV/Off%
14701 \fi
14702 \Fld@additionalactions
14703 }

```

#### \PDFForm@Text

```

14704 \def\PDFForm@Text{%
14705 /Subtype/Widget%
14706 \Fld@annotflags
14707 \Fld@pageobjref
14708 \Fld@annotnames
14709 /FT/Tx%
14710 \Fld@flags
14711 /Q \Fld@align
14712 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14713 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14714 \ifx\Fld@bordercolor\relax\else 1\fi
14715 \ifx\Fld@bcolor\relax \else 1\fi
14716 \space
14717 \else
14718 /MK<<%
14719 \ifnum\Fld@rotation=\z@
14720 \else
14721 /R \Fld@rotation
14722 \fi
14723 \ifx\Fld@bordercolor\relax
14724 \else
14725 /BC[\Fld@bordercolor]%
14726 \fi
14727 \ifx\Fld@bcolor\relax
14728 \else
14729 /BG[\Fld@bcolor]%
14730 \fi
14731 >>%
14732 \fi
14733 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14734 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14735 /DV(\Hy@escapestring{\Fld@default})%
14736 /V(\Hy@escapestring{\Fld@value})%
14737 \Fld@additionalactions
14738 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14739 }

```

#### \PDFForm@Submit

```

14740 \def\PDFForm@Submit{%
14741 /Subtype/Widget%
14742 \Fld@annotflags
14743 \Fld@pageobjref
14744 \Fld@annotnames
14745 /FT/Btn%
14746 \Fld@flags
14747 /H/P%
14748 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14749 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14750 \ifx\Fld@bordercolor\relax\else 1\fi
14751 \space
14752 \else

```

```

14753 /MK<<%
14754   \ifnum\Fld@rotation=\z@
14755   \else
14756     /R \Fld@rotation
14757   \fi
14758   \ifx\Fld@bordercolor\relax
14759   \else
14760     /BC[\Fld@bordercolor]%
14761   \fi
14762 >>%
14763 \fi
14764 /A<<%
14765 /S/SubmitForm%
14766 /F<<%
14767 /FS/URL%
14768 /F(\Hy@escapestring{\Form@action})%
14769 >>%
14770 \Fld@submitflags
14771 >>%
14772 \Fld@additionalactions
14773 }

```

#### \PDFForm@Reset

```

14774 \ifHy@pdfa
14775 \else
14776   \def\PDFForm@Reset{%
14777     /Subtype/Widget%
14778     \Fld@annotflags
14779     \Fld@pageobjref
14780     \Fld@annotnames
14781     /FT/Btn%
14782     \Fld@flags
14783     /H/P%
14784     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14785     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14786       \ifx\Fld@bordercolor\relax\else 1\fi
14787       \space
14788     \else
14789       /MK<<%
14790       \ifnum\Fld@rotation=\z@
14791       \else
14792         /R \Fld@rotation
14793       \fi
14794       \ifx\Fld@bordercolor\relax
14795       \else
14796         /BC[\Fld@bordercolor]%
14797       \fi
14798 % /CA (Clear)
14799 % /AC (Done)
14800 >>%
14801 \fi
14802 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14803 /A<</S/ResetForm>>%
14804 \Fld@additionalactions
14805 }%
14806 \fi
14807 </pdfform>

```

```
14808 \<package>
```

## 49 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in  $\text{\LaTeX}$  macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```
14809 \def\phantomsection{%
14810   \Hy@MakeCurrentHrefAuto{section*}%
14811   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14812 }
14813 \</package>
```

### 49.1 Bookmarks

```
14814 \<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.

```
14815 \def\Hy@writebookmark#1#2#3#4#5{%
14816   % section number, text, label, level, file
14817   \ifx\WriteBookmarks\relax%
14818     \else
14819     \ifnum#4>\Hy@bookmarksdepth\relax
14820     \else
14821       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
14822     \fi
14823   \fi
14824 }
14825 \def\Hy@currentbookmarklevel{0}
14826 \def\Hy@numberline#1{#1}
14827 \def\@@writetorep#1#2#3#4#5{%
14828   \begingroup
14829   \edef\Hy@tempa{#5}%
14830   \ifx\Hy@tempa\Hy@bookmarkstype
14831     \edef\Hy@level{#4}%
```

```

14832 \ifx\Hy@levelcheck Y%
14833 \@tempcnta\Hy@level\relax
14834 \advance\@tempcnta by -1 %
14835 \ifnum\Hy@currentbookmarklevel<\@tempcnta
14836 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14837 \advance\@tempcnta by 1 %
14838 \Hy@Warning{%
14839 Difference (\the\@tempcnta) between bookmark levels is %
14840 greater \MessageBreak than one, level fixed%
14841 }%
14842 \@tempcnta\Hy@currentbookmarklevel
14843 \advance\@tempcnta by 1 %
14844 \edef\Hy@level{\the\@tempcnta}%
14845 \fi
14846 \else
14847 \global\let\Hy@levelcheck Y%
14848 \fi
14849 \global\let\Hy@currentbookmarklevel\Hy@level
14850 \@tempcnta\Hy@level\relax
14851 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14852 \advance\@tempcnta by -1 %
14853 \edef\Hy@tempa{#3}%
14854 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14855 \ifx\Hy@tempa\Hy@tempb
14856 \Hy@Warning{%
14857 The anchor of a bookmark and its parent's must not%
14858 \MessageBreak be the same. Added a new anchor%
14859 }%
14860 \phantomsection
14861 \fi
14862 \ifHy@bookmarksnumbered
14863 \let\numberline\Hy@numberline
14864 \let\booknumberline\Hy@numberline
14865 \let\partnumberline\Hy@numberline
14866 \let\chapternumberline\Hy@numberline
14867 \else
14868 \let\numberline\@gobble
14869 \let\booknumberline\@gobble
14870 \let\partnumberline\@gobble
14871 \let\chapternumberline\@gobble
14872 \fi
14873 \HyPsd@XeTeXBigCharstrue
14874 \pdfstringdef\Hy@tempa{#2}%
14875 \HyPsd@SanitizeForOutFile\Hy@tempa
14876 \if@filesw
14877 \stepcounter{bookmark@seq@number}%
14878 \@ifundefined{@outlinefile}{%
14879 }{%
14880 \protected@write{@outlinefile}{%
14881 \protect\BOOKMARK
14882 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14883 {\Hy@tempa}{\Hy@tempb}%
14884 \@percentchar\space\thebookmark@seq@number
14885 }%
14886 }%
14887 \fi
14888 \fi

```

```

14889 \endgroup
14890 }
14891 \newcounter{bookmark@seq@number}

14892 \begingroup
14893 \lccode'('= '{%
14894 \lccode'('= }%
14895 \lccode'1=\z@
14896 \lccode'2=\z@
14897 \lccode'3=\z@
14898 \lccode'5=\z@
14899 \lccode'7=\z@
14900 \lccode'\#=\z@
14901 \lccode'\'=\z@
14902 \lccode'\{=\z@
14903 \lccode'\}=\z@
14904 \lowercase{%
14905 \endgroup
14906 \def\HyPsd@SanitizeForOutFile#1{%
14907   \@onelevel@sanitize\Hy@tempa
14908   \escapechar'\%
14909   \edef\Hy@tempa{%
14910     \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14911   }%
14912   \edef\Hy@tempa{%
14913     \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14914   }%
14915 }%
14916 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14917   #1%
14918   \ifx\#2\%
14919     \expandafter\ltx@gobble
14920   \else
14921     \expandafter\ltx@firstofone
14922   \fi
14923   {%
14924     \string\173%
14925     \HyPsd@SanitizeOut@BraceLeft#2\@nil
14926   }%
14927 }%
14928 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14929   #1%
14930   \ifx\#2\%
14931     \expandafter\ltx@gobble
14932   \else
14933     \expandafter\ltx@firstofone
14934   \fi
14935   {%
14936     \string\175%
14937     \HyPsd@SanitizeOut@BraceRight#2\@nil
14938   }%
14939 }%
14940 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14941 \newcommand{\currentpdfbookmark}{%
14942   \pdfbookmark[\Hy@currentbookmarklevel]%
14943 }

```

```

14944 \newcommand{\subpdfbookmark}{%
14945   \@tempcnta\Hy@currentbookmarklevel
14946   \Hy@StepCount\@tempcnta
14947   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14948 }
14949 \newcommand{\belowpdfbookmark}[2]{%
14950   \@tempcnta\Hy@currentbookmarklevel
14951   \Hy@StepCount\@tempcnta
14952   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14953   \advance\@tempcnta by -1 %
14954   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14955 }

```

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.

```

14956 \renewcommand\pdfbookmark[3][0]{%
14957   \Hy@writebookmark{}{#2}{#3.#1}{#1}{toc}%
14958   \hyper@anchorstart{#3.#1}\hyper@anchorend
14959 }
14960 \def\BOOKMARK{%
14961   \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14962 }
14963 \def\@BOOKMARK[#1]{%
14964   \@ifnextchar[{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
14965 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

#### 49.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

14966 \RequirePackage{rerunfilecheck}[2009/12/10]
14967 \def\Hy@OutlineRerunCheck{%
14968   \RerunFileCheck{\jobname.out}{%
14969     \immediate\closeout\@outlinefile
14970   }{%
14971     Rerun to get outlines right\MessageBreak
14972     or use package 'bookmark'%
14973   }%
14974 }

```

#### 49.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou ([denis.girou@idris.fr](mailto:denis.girou@idris.fr)), then by 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.

```

14975 \<*vtx>
14976 \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.

```

14977 \begingroup
14978   \catcode'\'=12 %

```

```

14979 \ifnum\Hy@VTeXversion<650 %
14980 \catcode'\'=12 %
14981 \gdef\hv@pdf@char#1#2#3{%
14982 \char
14983 \ifcase'#1#2#3 %
14984 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14985 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14986 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14987 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14988 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14989 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14990 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14991 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14992 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14993 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14994 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14995 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14996 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14997 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14998 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14999 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
15000 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
15001 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
15002 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
15003 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
15004 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
15005 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
15006 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
15007 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
15008 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
15009 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
15010 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
15011 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
15012 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
15013 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
15014 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
15015 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
15016 \fi
15017 }%
15018 \else
15019 \gdef\hv@pdf@char{\char'}%
15020 \fi
15021 \endgroup

```

\@@BOOKMARK

```

15022 \def\@@BOOKMARK[#1][#2]#3#4#5{%
15023 \expandafter\edef\csname @count@#3\endcsname{%
15024 \the\@serial@counter
15025 }%
15026 \edef\@mycount{\the\@serial@counter}%
15027 \Hy@StepCount\@serial@counter
15028 \edef\@parcount{%
15029 \expandafter\ifx\csname @count@#5\endcsname\relax
15030 0%
15031 \else
15032 \csname @count@#5\endcsname
15033 \fi
15034 }%

```

```

15035 \immediate\special{%
15036 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
15037 s=\ifx#2-c\else o\fi,t=#4%
15038 }%
15039 }%

```

# \ReadBookmarks

```

15040 \def\ReadBookmarks{%
15041 \begingroup
15042 \def\0{\hv@pdf@char 0}%
15043 \def\1{\hv@pdf@char 1}%
15044 \def\2{\hv@pdf@char 2}%
15045 \def\3{\hv@pdf@char 3}%
15046 \def\({}%
15047 \def\)}{%
15048 \def\do##1{%
15049 \ifnum\catcode'##1=\active
15050 \@makeother##1%
15051 \else
15052 \ifnum\catcode'##1=6 %
15053 \@makeother##1%
15054 \fi
15055 \fi
15056 }%
15057 \dospecials
15058 \Hy@safe@activetrue
15059 \InputIfFileExists{jobname.out}{\relax}%
15060 \endgroup
15061 \ifx\WriteBookmarks\relax
15062 \else
15063 \if@filesw
15064 \newwrite\@outlinefile
15065 \Hy@OutlineRerunCheck
15066 \immediate\openout\@outlinefile=jobname.out\relax
15067 \ifHy@typexml
15068 \immediate\write\@outlinefile{<relaxxml>\relax}%
15069 \fi
15070 \fi
15071 \fi
15072 }

15073 </vtex>
15074 <!*vtex>
15075 \def\ReadBookmarks{%
15076 \pdf@ifdraftmode{\relax}%
15077 \begingroup
15078 \def\do##1{%
15079 \ifnum\catcode'##1=\active
15080 \@makeother##1%
15081 \else
15082 \ifnum\catcode'##1=6 %
15083 \@makeother##1%
15084 \fi
15085 \fi
15086 }%
15087 \dospecials
15088 \Hy@safe@activetrue

```



```

15089 \escapechar='\\%
15090 \def\@@BOOKMARK[##1][##2]##3##4##5{%
15091 \calc@bm@number{##5}%
15092 }%
15093 \InputIfFileExists{\jobname.out}{-}{-}%
15094 \ifx\WriteBookmarks\relax
15095 \global\let\WriteBookmarks\relax
15096 \fi
15097 \def\@@BOOKMARK[##1][##2]##3##4##5{%
15098 \def\Hy@temp{##4}%
15099 \*pdfTeX)
15100 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
15101 \Hy@OutlineName{}\Hy@pstringName{%
15102 ##2\check@bm@number{##3}%
15103 }{%
15104 \expandafter\strip@prefix\meaning\Hy@temp
15105 }%
15106 \*pdfTeX)
15107 \*pdfmark)
15108 \pdfmark{%
15109 pdfmark=/OUT,%
15110 Count={##2\check@bm@number{##3}},%
15111 Dest={##3},%
15112 Title=\expandafter\strip@prefix\meaning\Hy@temp
15113 }%
15114 \*pdfmark)
15115 \*dvipdfm|xetex)
15116 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
15117 \@pdfm@mark{%
15118 outline \ifHy@DvipdfmxOutlineOpen
15119 [%
15120 \ifnum##21>\z@
15121 \else
15122 -%
15123 \fi
15124 ] %
15125 \fi
15126 ##1<<%
15127 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
15128 /A<<%
15129 /S/GoTo%
15130 /D(\Hy@pstringName)%
15131 >>%
15132 >>%
15133 }%
15134 \*dvipdfm|xetex)
15135 }%
15136 \begingroup
15137 \def\WriteBookmarks{0}%
15138 \InputIfFileExists{\jobname.out}{-}{-}%
15139 \endgroup
15140 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
15141 \endgroup
15142 }%
15143 \ifx\WriteBookmarks\relax
15144 \else
15145 \if@files

```

```

15146 \newwrite\@outlinefile
15147 \Hy@OutlineRerunCheck
15148 \immediate\openout\@outlinefile=\jobname.out\relax
15149 \ifHy@typexml
15150 \immediate\write\@outlinefile{<relaxxml>\relax}%
15151 \fi
15152 \fi
15153 \fi
15154 }
15155 <*/pdfTeX>
15156 \def\Hy@OutlineName#1#2#3#4{%
15157 \pdfoutline goto name{#2}count#3{#4}%
15158 }
15159 </pdfTeX>
15160 \def\check@bm@number#1{%
15161 \expandafter\ifx\csname B_#1\endcsname\relax
15162 0%
15163 \else
15164 \csname B_#1\endcsname
15165 \fi
15166 }
15167 \def\calc@bm@number#1{%
15168 \@tempcnta=\check@bm@number{#1}\relax
15169 \advance\@tempcnta by 1 %
15170 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
15171 }
15172 </!vTeX>

15173 \ifHy@implicit
15174 \else
15175 \expandafter\endinput
15176 \fi

15177 </outlines>
15178 <*outlines | hypertex>

15179 \newlength\Hy@SectionHShift
15180 \def\Hy@SectionAnchorHref#1{%
15181 \ifx\protect\@typeset@protect
15182 \Hy@@@SectionAnchor{#1}%
15183 \fi
15184 }
15185 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
15186 \leavevmode
15187 \hbox to 0pt{%
15188 \kern-\Hy@SectionHShift
15189 \Hy@raisedlink{%
15190 \hyper@anchorstart{#1}\hyper@anchorend
15191 }%
15192 \hss
15193 }%
15194 }
15195 \let\H@old@ssect\@ssect
15196 \def\@ssect#1#2#3#4#5{%
15197 \Hy@MakeCurrentHrefAuto{section*}%
15198 \setlength{\Hy@SectionHShift}{#1}%
15199 \begingroup
15200 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
15201 \toks\tw@\expandafter{%

```

```

15202 \expandafter\Hy@sectionAnchorHref\expandafter{\@currentHref}%
15203 #5%
15204 }%
15205 \edef\x{\endgroup
15206 \the\toks@{\the\toks\tw@}}%
15207 }\x
15208 }
15209 \let\H@old@chapter\@chapter
15210 \def\@chapter#1{%
15211 \begingroup
15212 \let\@mkboth\@gobbletwo
15213 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15214 \Hy@raisedlink{%
15215 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15216 }%
15217 \endgroup
15218 \H@old@chapter{#1}%
15219 }

```

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:

```

15220 \ltx@ifundefined{@chapter}{-}{%
15221 \let\Hy@org@chapter\@chapter
15222 \def\@chapter{%
15223 \def\Hy@next{%
15224 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15225 \Hy@raisedlink{%
15226 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15227 }%
15228 }%
15229 \ifnum\c@secnumdepth>\m@ne
15230 \ltx@ifundefined{if@mainmatter}%
15231 \iftrue{ \csname if@mainmatter\endcsname}%
15232 \let\Hy@next\relax
15233 \fi
15234 \fi
15235 \Hy@next
15236 \Hy@org@chapter
15237 }%
15238 }

15239 \let\H@old@part\@part
15240 \begingroup\expandafter\expandafter\expandafter\endgroup
15241 \expandafter\ifx\csname chapter\endcsname\relax
15242 \let\Hy@secnum@part\z@
15243 \else
15244 \let\Hy@secnum@part\m@ne
15245 \fi
15246 \def\@part{%
15247 \ifnum\Hy@secnum@part>\c@secnumdepth
15248 \phantomsection
15249 \fi
15250 \H@old@part
15251 }

15252 \let\H@old@spart\@spart
15253 \def\@spart#1{%
15254 \Hy@MakeCurrentHrefAuto{part*}%

```

```

15255 \Hy@raisedlink{%
15256   \hyper@anchorstart{\@currentHref}\hyper@anchorend
15257 }%
15258 \H@old@spart{#1}%
15259 }
15260 \let\H@old@sect\@sect
15261 \def\@sect#1#2#3#4#5#6[#7]#8{%
15262   \ifnum #2>\c@secnumdepth
15263     \expandafter\@firstoftwo
15264   \else
15265     \expandafter\@secondoftwo
15266   \fi
15267   {%
15268     \Hy@MakeCurrentHrefAuto{section*}%
15269     \setlength{\Hy@SectionHShift}{#3}%
15270     \begingroup
15271       \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
15272       \toks\tw@\expandafter{%
15273         \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
15274         #8%
15275       }%
15276       \edef\x{\endgroup
15277         \the\toks@\the\toks\tw@}%
15278       }\x
15279     }{%
15280       \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
15281     }%
15282   }
15283 </outlines | hypertex>
15284 <*outlines>

15285 \expandafter\def\csname Parent-4\endcsname{}
15286 \expandafter\def\csname Parent-3\endcsname{}
15287 \expandafter\def\csname Parent-2\endcsname{}
15288 \expandafter\def\csname Parent-1\endcsname{}
15289 \expandafter\def\csname Parent0\endcsname{}
15290 \expandafter\def\csname Parent1\endcsname{}
15291 \expandafter\def\csname Parent2\endcsname{}
15292 \expandafter\def\csname Parent3\endcsname{}
15293 \expandafter\def\csname Parent4\endcsname{}
15294 </outlines>

```

## 50 Compatibility with koma-script classes

```
15295 <*outlines | hypertex>
```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

15296 \def\Hy@tempa{%
15297   \def\@addchap[##1]##2{%
15298     \typeout{##2}%
15299     \if@twoside
15300       \@mkboth{##1}{}%
15301     \else
15302       \@mkboth{}{##1}%

```

```

15303 \fi
15304 \addtocontents{lof}{\protect\addvspace{10\p@}}%
15305 \addtocontents{lot}{\protect\addvspace{10\p@}}%
15306 \Hy@MakeCurrentHrefAuto{\Hy@chapapp}%
15307 \Hy@raisedlink{%
15308   \hyper@anchorstart{\@currentHref}\hyper@anchorend
15309 }%
15310 \if@twocolumn
15311   \@topnewpage[\@makeschapterhead{##2}]%
15312 \else
15313   \@makeschapterhead{##2}%
15314   \@afterheading
15315 \fi
15316 \addcontentsline{toc}{chapter}{##1}%
15317 }%
15318 }
15319 \@ifclassloaded{scrbook}{%
15320   \@ifclasslater{scrbook}{2001/01/01}{%
15321     \let\Hy@tempa\@empty
15322   }{%
15323   }%
15324   \@ifclassloaded{scrreprt}{%
15325     \@ifclasslater{scrreprt}{2001/01/01}{%
15326       \let\Hy@tempa\@empty
15327     }{%
15328     }%
15329     \let\Hy@tempa\@empty
15330   }%
15331 }%
15332 \Hy@tempa
15333 </outlines | hypertext>

```

## 51 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 51.1 PD1 encoding

```

15334 <*pd1enc>
15335 \DeclareFontEncoding{PD1}{}{}

Accents
15336 \DeclareTextAccent{'}{PD1}{\textasciigrave}
15337 \DeclareTextAccent{'}{PD1}{\textacute}
15338 \DeclareTextAccent{^}{PD1}{\textasciicircum}
15339 \DeclareTextAccent{~}{PD1}{\texttilde}
15340 \DeclareTextAccent{¨}{PD1}{\textasciidieresis}
15341 \DeclareTextAccent{r}{PD1}{\textring}
15342 \DeclareTextAccent{v}{PD1}{\textasciicaron}
15343 \DeclareTextAccent{.}{PD1}{\textdotaccent}
15344 \DeclareTextAccent{c}{PD1}{\textcedilla}
15345 \DeclareTextAccent{=}{PD1}{\textasciimacron}
15346 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
15347 \DeclareTextAccent{d}{PD1}{\textdotbelow}
15348 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
15349 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textacute}

```

```

15350 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textasciicircum}
15351 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
15352 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
15353 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
15354 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
15355 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
15356 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
15357 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
15358 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
15359 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
15360 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textasciigrave}
15361 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
15362 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}
15363 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
15364 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
15365 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
15366 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
15367 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
15368 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
15369 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
15370 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
15371 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
15372 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}}{#1}
15373 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}}{#1}
15374 \DeclareTextCommand{\newtie}{PD1}[1]{%
15375   \TextSymbolUnavailable{\newtie{#1}}}{#1}%
15376 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

15377 % U+0009 (CHARACTER TABULATION)
15378 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
15379 % U+000A (LINE FEED)
15380 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
15381 % U+000D (CARRIAGE RETURN)
15382 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

15383 % U+02D8 BREVE; breve
15384 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
15385 % U+02C7 CARON; caron
15386 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
15387 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
15388 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
15389 % U+02D9 DOT ABOVE; dotaccent
15390 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
15391 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
15392 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
15393 % U+02DB OGONEK; ogonek
15394 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
15395 % U+02DA RING ABOVE; ring
15396 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
15397 % U+02DC SMALL TILDE; ilde, *tilde
15398 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

15399 % U+0022 QUOTATION MARK; quotedbl

15400 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022

15401 % U+0023 NUMBER SIGN; numbersign  
 15402 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023  
 15403 % U+0024 DOLLAR SIGN; dollar  
 15404 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024  
 15405 % U+0025 PERCENT SIGN; percent  
 15406 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
 15407 % U+0026 AMPERSAND; ampersand  
 15408 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
 \047: U+0027 APOSTROPHE; quotesingle  
  
 15409 % U+0028 LEFT PARENTHESIS; parenleft  
 15410 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028  
 15411 % U+0029 RIGHT PARENTHESIS; parenright  
 15412 \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  
 15413 % U+002E FULL STOP; period  
 15414 \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  
 15415 % U+003C LESS-THAN SIGN; less  
 15416 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 15417 % U+003E GREATER-THAN SIGN; greater  
 15418 \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  
 15419 % U+005C REVERSE SOLIDUS; backslash  
 15420 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 15421 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"  
 15422 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 15423 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 15424 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 15425 % U+005F LOW LINE; underscore  
 15426 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 15427 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 15428 % U+0060 GRAVE ACCENT; grave  
 15429 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h

15430 % U+0069 LATIN SMALL LETTER I; i  
 15431 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 15432 % U+007B LEFT CURLY BRACKET; braceleft  
 15433 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 15434 % U+007C VERTICAL LINE; \*bar, verticalbar  
 15435 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 15436 % U+007D RIGHT CURLY BRACKET; braceright  
 15437 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 15438 % U+007E TILDE; asciitilde  
 15439 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 15440 % U+2022 BULLET; bullet  
 15441 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 15442 % U+2020 DAGGER; dagger  
 15443 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 15444 % U+2021 DOUBLE DAGGER; daggerdbl; ddagger (LaTeX)  
 15445 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 15446 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}  
 15447 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 15448 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 15449 % U+2014 EM DASH; emdash  
 15450 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 15451 % U+2013 EN DASH; endash  
 15452 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 15453 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 15454 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 15455 % U+2044 FRACTION SLASH; fraction  
 15456 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 15457 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 15458 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039  
 15459 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-  
 ingright  
 15460 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A  
 15461 % U+2212 MINUS SIGN; minus  
 15462 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
 15463 % U+2030 PER MILLE SIGN; perthousand  
 15464 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
 15465 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 15466 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
 15467 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 15468 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
 15469 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 15470 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
 15471 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 15472 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
 15473 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 15474 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
 15475 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 15476 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
 15477 % U+2122 TRADE MARK SIGN; trademark  
 15478 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
 15479 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 15480 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01



15481 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 15482 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
 15483 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 15484 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
 15485 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 15486 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
 15487 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 15488 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
 15489 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 15490 \DeclareTextCompositeCommand{\”}{PD1}{Y}{\230}% U+0178  
 15491 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A  
 15492 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 15493 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
 15494 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 15495 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
 15496 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 15497 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
 15498 % U+0153 LATIN SMALL LIGATURE OE; oe  
 15499 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
 15500 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 15501 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
 15502 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 15503 \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.  
 15504 % U+20AC EURO SIGN; \*Euro, euro  
 15505 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
 15506 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 15507 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
 15508 % U+00A2 CENT SIGN; cent  
 15509 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
 15510 % U+00A3 POUND SIGN; sterling  
 15511 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
 15512 % U+00A4 CURRENCY SIGN; currency  
 15513 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
 15514 % U+00A5 YEN SIGN; yen  
 15515 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
 15516 % U+00A6 BROKEN BAR; brokenbar  
 15517 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
 15518 % U+00A7 SECTION SIGN; section  
 15519 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
 15520 % U+00A8 DIAERESIS; dieresis  
 15521 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
 15522 % U+00A9 COPYRIGHT SIGN; copyright  
 15523 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
 15524 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 15525 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 15526 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motleft  
 15527 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 15528 % U+00AC NOT SIGN; logicalnot  
 15529 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 15530 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
 No glyph \255 in PDFDocEncoding.  
 15531 % U+00AE REGISTERED SIGN; registered  
 15532 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 15533 % U+00AF MACRON; \*macron, overscore

15534 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
15535 % U+00B0 DEGREE SIGN; degree  
15536 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
15537 % U+00B1 PLUS-MINUS SIGN; plusminus  
15538 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
15539 % U+00B2 SUPERSCRIPT TWO; twosuperior  
15540 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%\* U+00B2  
15541 % U+00B3 SUPERSCRIPT THREE; threesuperior  
15542 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%\* U+00B3  
15543 % U+00B4 ACUTE ACCENT; acute  
15544 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
15545 % U+00B5 MICRO SIGN; mu, mu1  
15546 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
15547 % U+00B6 PILCROW SIGN; paragraph  
15548 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
15549 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15550 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
15551 % U+00B8 CEDILLA; cedilla  
15552 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
15553 % U+00B9 SUPERSCRIPT ONE; onesuperior  
15554 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%\* U+00B9  
15555 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
15556 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
15557 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
15558 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
15559 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
15560 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
15561 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
15562 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
15563 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15564 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
15565 % U+00BF INVERTED QUESTION MARK; questiondown  
15566 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
15567 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15568 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
15569 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15570 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
15571 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15572 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
15573 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15574 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
15575 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15576 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
15577 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15578 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
15579 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15580 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
15581 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15582 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
15583 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15584 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
15585 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15586 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
15587 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15588 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
15589 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis

15590 \DeclareTextCompositeCommand{"}{PD1}{E}{\313}% U+00CB  
15591 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15592 \DeclareTextCompositeCommand{'}{PD1}{I}{\314}% U+00CC  
15593 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15594 \DeclareTextCompositeCommand{'}{PD1}{I}{\315}% U+00CD  
15595 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15596 \DeclareTextCompositeCommand{^}{PD1}{I}{\316}% U+00CE  
15597 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15598 \DeclareTextCompositeCommand{"}{PD1}{I}{\317}% U+00CF  
15599 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15600 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
15601 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
15602 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15603 \DeclareTextCompositeCommand{~}{PD1}{N}{\321}% U+00D1  
15604 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15605 \DeclareTextCompositeCommand{'}{PD1}{O}{\322}% U+00D2  
15606 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15607 \DeclareTextCompositeCommand{'}{PD1}{O}{\323}% U+00D3  
15608 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15609 \DeclareTextCompositeCommand{^}{PD1}{O}{\324}% U+00D4  
15610 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15611 \DeclareTextCompositeCommand{~}{PD1}{O}{\325}% U+00D5  
15612 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15613 \DeclareTextCompositeCommand{"}{PD1}{O}{\326}% U+00D6  
15614 % U+00D7 MULTIPLICATION SIGN; multiply  
15615 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
15616 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15617 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
15618 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15619 \DeclareTextCompositeCommand{'}{PD1}{U}{\331}% U+00D9  
15620 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15621 \DeclareTextCompositeCommand{'}{PD1}{U}{\332}% U+00DA  
15622 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15623 \DeclareTextCompositeCommand{^}{PD1}{U}{\333}% U+00DB  
15624 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15625 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC  
15626 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15627 \DeclareTextCompositeCommand{'}{PD1}{Y}{\335}% U+00DD  
15628 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15629 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
15630 \DeclareTextCommand{\textThorn}{PD1}{\336}%\* U+00DE  
15631 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15632 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
15633 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15634 \DeclareTextCompositeCommand{'}{PD1}{a}{\340}% U+00E0  
15635 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15636 \DeclareTextCompositeCommand{'}{PD1}{a}{\341}% U+00E1  
15637 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15638 \DeclareTextCompositeCommand{^}{PD1}{a}{\342}% U+00E2  
15639 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15640 \DeclareTextCompositeCommand{~}{PD1}{a}{\343}% U+00E3  
15641 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15642 \DeclareTextCompositeCommand{"}{PD1}{a}{\344}% U+00E4  
15643 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15644 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
15645 % U+00E6 LATIN SMALL LETTER AE; ae  
15646 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6

15647 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15648 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
15649 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15650 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
15651 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15652 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
15653 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15654 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
15655 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15656 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
15657 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15658 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
15659 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15660 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15661 \DeclareTextCompositeCommand{\`}{PD1}{i}{\355}% U+00ED  
15662 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15663 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15664 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15665 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15666 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15667 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15668 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15669 % U+00F0 LATIN SMALL LETTER ETH; eth  
15670 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
15671 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15672 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
15673 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
15674 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
15675 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
15676 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
15677 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
15678 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
15679 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
15680 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
15681 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
15682 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
15683 % U+00F7 DIVISION SIGN; divide  
15684 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
15685 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
15686 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
15687 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
15688 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9  
15689 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
15690 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA  
15691 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
15692 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB  
15693 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
15694 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC  
15695 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
15696 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD  
15697 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)  
15698 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
15699 \DeclareTextCommand{\textthorn}{PD1}{\376}%\* U+00FE  
15700 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
15701 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF  
15702 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A

Glyphs that consist of several characters.

```

15703 \DeclareTextCommand{\SS}{PD1}{SS}%
15704 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%
Aliases (german.sty)
15705 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%
15706 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%
15707 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%
15708 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%
15709 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}%
15710 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}%
15711 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%
15712 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%
Aliases (math names)
15713 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15714 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15715 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15716 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15717 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15718 \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).
15719 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15720 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15721 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15722 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
15723 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15724 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15725 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15726 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15727 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15728 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15729 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
15730 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15731 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15732 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
15733 \end{pd1enc}

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## 51.2 PU encoding

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15734 (*puenc)
15735 \DeclareFontEncoding{PU}{}{}

```

### 51.2.1 NFSS2 accents

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15736 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15737 \DeclareTextCommand{\`}{PU}[1]{\#1\83\000}% U+0300
15738 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15739 \DeclareTextCommand{\'}{PU}[1]{\#1\83\001}% U+0301
15740 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15741 \DeclareTextCommand{\^}{PU}[1]{\#1\83\002}% U+0302
15742 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
15743 \DeclareTextCommand{\~}{PU}[1]{\#1\83\003}% U+0303
15744 % U+0304 COMBINING MACRON; macroncmb
15745 \DeclareTextCommand{\=}{PU}[1]{\#1\83\004}% U+0304
15746 % U+0306 COMBINING BREVE; brevecmb
15747 \DeclareTextCommand{\u}{PU}[1]{\#1\83\006}% U+0306
15748 \DeclareTextCommand{\U}{PU}[1]{\#1\83\006}% U+0306

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15749 % U+0307 COMBINING DOT ABOVE; dotaccentcmb  
 15750 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307  
 15751 % U+0308 COMBINING DIAERESIS; dieresiscmb  
 15752 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308  
 15753 % U+030A COMBINING RING ABOVE; ringcmb  
 15754 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A  
 15755 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb  
 15756 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B  
 15757 % U+030C COMBINING CARON; caroncmb  
 15758 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C  
 15759 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 15760 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F  
 15761 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F  
 15762 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 15763 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311  
 15764 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcmb  
 15765 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323  
 15766 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-  
 laut (tipa)  
 15767 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324  
 15768 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)  
 15769 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325  
 15770 % U+0327 COMBINING CEDILLA; cedillacmb  
 15771 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327  
 15772 % U+0328 COMBINING OGONEK; ogonekcmb  
 15773 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328  
 15774 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;  
 15775 % \textsubcircum (tipa)  
 15776 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D  
 15777 % U+032E COMBINING BREVE BELOW; brevebelowcmb  
 15778 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E  
 15779 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)  
 15780 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330  
 15781 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 15782 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331  
 15783 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-  
 blecmb  
 15784 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361  
 15785 % U+20DD COMBINING ENCLOSING CIRCLE  
 15786 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

Double accents.

15787 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304  
 15788 \DeclareTextCommand{\textgravemacron}{PU}[1]{#1\83\000\83\004}% U+0300 U+0304

\@empty is an artefact of the NFSS2 machinery, it gets inserted for empty arguments and spaces.

15789 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}%  
 15790 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}%  
 15791 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciicircum}%  
 15792 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%  
 15793 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%  
 15794 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}%  
 15795 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%  
 15796 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%  
 15797 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%  
 15798 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%  
 15799 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%  
 15800 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%

15801 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%  
15802 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%  
15803 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\{\ \83\021\}}% U+0311  
15804 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\{\ \83\044\}}% U+0324  
15805 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%  
15806 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-  
low}%  
15807 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\{\ \83\056\}}% U+032E  
15808 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildebelow}%  
15809 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%  
15810 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%  
15811 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%  
15812 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%  
15813 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%  
15814 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\{\ \83\001\83\004\}}% U+0301 U  
15815 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\{\ \83\000\83\004\}}% U+0300 U  
15816 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}%  
15817 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%  
15818 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}%  
15819 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%  
15820 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%  
15821 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%  
15822 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%  
15823 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%  
15824 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%  
15825 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%  
15826 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%  
15827 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%  
15828 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%  
15829 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%  
15830 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\{\ \83\021\}}% U+0311  
15831 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\{\ \83\044\}}% U+0324  
15832 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}%  
15833 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%  
15834 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\{\ \83\056\}}% U+032E  
15835 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildebelow}%  
15836 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%  
15837 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%  
15838 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%  
15839 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%  
15840 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%  
15841 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\{\ \83\001\83\004\}}% U+0301 U+0304  
15842 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\{\ \83\000\83\004\}}% U+0300 U+0304

Accents for capitals (see encoding TS1)

15843 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}%  
15844 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}%  
15845 \DeclareTextCommand{\capitalgrave}{PU}[1]{\'{#1}}%  
15846 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}%  
15847 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}%  
15848 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}%  
15849 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}%  
15850 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%  
15851 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}%  
15852 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}%  
15853 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}%  
15854 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}%  
15855 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1\}}%

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15856 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}%
15857 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%

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### 51.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

15858 % U+0009 (CHARACTER TABULATION)
15859 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
15860 % U+000A (LINE FEED)
15861 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
15862 % U+000D (CARRIAGE RETURN)
15863 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

15864 % U+0022 QUOTATION MARK; quotedbl
15865 \DeclareTextCommand{\textquotedbl}{PU}{"}% \80\042 U+0022
15866 % U+0023 NUMBER SIGN; numbersign
15867 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
15868 % U+0024 DOLLAR SIGN; dollar
15869 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
15870 %* \textdollar -> \mathdollar
15871 %* \textdollar -> \EyesDollar (marvosym)
15872 % U+0025 PERCENT SIGN; percent
15873 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
15874 % U+0026 AMPERSAND; ampersand
15875 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
15876 %* \textampersand -> \binampersand (stmaryrd)
15877 %* \textampersand -> \with (cml)
15878 % U+0027 APOSTROPHE; quotesingle
15879 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
15880 % U+0028 LEFT PARENTHESIS; parenleft
15881 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
15882 % U+0029 RIGHT PARENTHESIS; parenright
15883 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
15884 % U+002A ASTERISK; asterisk; (?)
15885 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A
15886 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)
15887 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%* U+002B
15888 % U+002C COMMA; comma; \MVComma (marvosym)
15889 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%* U+002C
15890 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)
15891 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%* U+002D
15892 % U+002E FULL STOP; period; \MVPeriod (marvosym)
15893 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%* U+002E
15894 % U+002F SOLIDUS; slash; \MVDivision (marvosym)
15895 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%* U+002F
15896 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)
15897 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%* U+0030
15898 % U+0031 DIGIT ONE; one; \MVOne (marvosym)
15899 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%* U+0031
15900 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)
15901 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%* U+0032
15902 % U+0033 DIGIT THREE; three; \MVThree (marvosym)
15903 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%* U+0033
15904 % U+0034 DIGIT FOUR; four; \MVFour (marvosym)
15905 \DeclareTextCommand{\textMVFour}{PU}{\80\064}%* U+0034
15906 % U+0035 DIGIT FIVE; five; \MVFive (marvosym)
15907 \DeclareTextCommand{\textMVFive}{PU}{\80\065}%* U+0035

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15908 % U+0036 DIGIT SIX; six; \MVSix (marvosym)  
 15909 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%\* U+0036  
 15910 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)  
 15911 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%\* U+0037  
 15912 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)  
 15913 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%\* U+0038  
 15914 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)  
 15915 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%\* U+0039  
 \80\072: U+003A COLON; colon  
 \80\073: U+003B SEMICOLON; semicolon  
 15916 % U+003C LESS-THAN SIGN; less  
 15917 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 15918 % U+003E GREATER-THAN SIGN; greater  
 15919 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E  
 \80\077: U+003F QUESTION MARK; question  
 15920 % U+0040 COMMERCIAL AT; at; \MVAt (marvosym)  
 15921 \DeclareTextCommand{\textMVAt}{PU}{\80\100}%\* U+0040  
 \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  
 15922 % U+005C REVERSE SOLIDUS; backslash  
 15923 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 15924 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 15925 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 15926 % U+005F LOW LINE; underscore  
 15927 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 15928 %\* \textunderscore -> \mathunderscore (LaTeX)  
 15929 % U+0060 GRAVE ACCENT; grave  
 15930 \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  
 15931 % U+0069 LATIN SMALL LETTER I; i  
 15932 \DeclareTextCompositeCommand{.}{PU}{i}{i}% \80\151 U+0069  
 15933 \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  
 15934 % U+007B LEFT CURLY BRACKET; braceleft  
 15935 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 15936 % U+007C VERTICAL LINE; \*bar, verticalbar  
 15937 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 15938 %\* \textbar -> \textvertline (tipa)  
 15939 % U+007D RIGHT CURLY BRACKET; braceright  
 15940 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 15941 % U+007E TILDE; asciitilde  
 15942 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

### 51.2.3 Latin-1 Supplement: U+0080 to U+00FF

\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace  
15943 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
15944 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
15945 % U+00A2 CENT SIGN; cent  
15946 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
15947 % U+00A3 POUND SIGN; sterling  
15948 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
15949 %\* \textsterling -> \mathsterling (LaTeX)  
15950 %\* \textsterling -> \pounds (LaTeX)  
15951 % U+00A4 CURRENCY SIGN; currency  
15952 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
15953 % U+00A5 YEN SIGN; yen  
15954 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
15955 % U+00A6 BROKEN BAR; brokenbar  
15956 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
15957 %\* \textbrokenbar -> \brokenvert (wasysym)  
15958 % U+00A7 SECTION SIGN; section  
15959 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
15960 %\* \textsection -> \mathsection (LaTeX)  
15961 %\* \textsection -> \S (LaTeX)  
15962 % U+00A8 DIAERESIS; dieresis  
15963 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
15964 % U+00A9 COPYRIGHT SIGN; copyright  
15965 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%\* U+00A9  
15966 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
15967 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
15968 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
15969 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
15970 % U+00AC NOT SIGN; logicalnot  
15971 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
15972 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
\\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
15973 % U+00AE REGISTERED SIGN; registered  
15974 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
15975 % U+00AF MACRON; \*macron, overscore  
15976 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
15977 % U+00B0 DEGREE SIGN; degree  
15978 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
15979 % U+00B1 PLUS-MINUS SIGN; plusminus  
15980 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
15981 % U+00B2 SUPERScript TWO; twosuperior  
15982 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%\* U+00B2  
15983 % U+00B3 SUPERScript THREE; threesuperior  
15984 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%\* U+00B3  
15985 % U+00B4 ACUTE ACCENT; acute  
15986 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
15987 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
15988 % U+00B5 MICRO SIGN; mu, mul  
15989 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
15990 % U+00B6 PILCROW SIGN; paragraph  
15991 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
15992 %\* \textparagraph -> \mathparagraph (LaTeX)  
15993 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15994 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7

15995 %\* \textperiodcentered -> \MultiplicationDot (marvosym)  
15996 %\* \textperiodcentered -> \Squaredot (marvosym)  
15997 % U+00B8 CEDILLA; cedilla  
15998 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
15999 % U+00B9 SUPERSCRIPT ONE; onesuperior  
16000 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%\* U+00B9  
16001 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
16002 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
16003 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
16004 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
16005 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
16006 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
16007 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
16008 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
16009 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
16010 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
16011 % U+00BF INVERTED QUESTION MARK; questiondown  
16012 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
16013 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
16014 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
16015 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
16016 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
16017 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
16018 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
16019 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
16020 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
16021 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
16022 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
16023 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
16024 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
16025 % U+00C6 LATIN CAPITAL LETTER AE; AE  
16026 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
16027 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
16028 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
16029 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
16030 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
16031 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
16032 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
16033 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
16034 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
16035 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
16036 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
16037 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
16038 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
16039 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
16040 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
16041 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
16042 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
16043 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
16044 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
16045 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
16046 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
16047 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
16048 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
16049 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
16050 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2

16051 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
16052 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
16053 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
16054 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\324}% U+00D4  
16055 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
16056 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
16057 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
16058 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
16059 % U+00D7 MULTIPLICATION SIGN; multiply  
16060 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
16061 %\* \textmultiply -> \vartimes (stmaryrd)  
16062 %\* \textmultiply -> \MVMultiplication (marvosym)  
16063 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
16064 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
16065 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
16066 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9  
16067 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
16068 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
16069 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
16070 \DeclareTextCompositeCommand{\~}{PU}{U}{\80\333}% U+00DB  
16071 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
16072 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
16073 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
16074 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
16075 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
16076 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
16077 \DeclareTextCommand{\textThorn}{PU}{\80\336}%\* U+00DE  
16078 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
16079 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
16080 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
16081 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0  
16082 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
16083 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
16084 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
16085 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\342}% U+00E2  
16086 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
16087 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
16088 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
16089 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
16090 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
16091 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
16092 % U+00E6 LATIN SMALL LETTER AE; ae  
16093 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
16094 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
16095 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
16096 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
16097 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
16098 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
16099 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
16100 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
16101 \DeclareTextCompositeCommand{\~}{PU}{e}{\80\352}% U+00EA  
16102 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
16103 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
16104 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
16105 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
16106 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
16107 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute

16108 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
16109 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
16110 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
16111 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\356}% U+00EE  
16112 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\356}% U+00EE  
16113 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
16114 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
16115 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
16116 % U+00F0 LATIN SMALL LETTER ETH; eth  
16117 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
16118 %\* \dh -> \eth (wsuipa, phonetic)  
16119 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
16120 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
16121 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
16122 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
16123 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
16124 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
16125 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
16126 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\364}% U+00F4  
16127 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
16128 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
16129 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
16130 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
16131 % U+00F7 DIVISION SIGN; divide  
16132 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
16133 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
16134 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
16135 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
16136 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
16137 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
16138 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
16139 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
16140 \DeclareTextCompositeCommand{\~}{PU}{u}{\80\373}% U+00FB  
16141 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
16142 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
16143 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
16144 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
16145 % U+00FE LATIN SMALL LETTER THORN; thorn;  
16146 % \th, \thorn (wasysym), \textthorn (tipa)  
16147 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
16148 \DeclareTextCommand{\textthorn}{PU}{\80\376}%\* U+00FE  
16149 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
16150 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 51.2.4 Latin Extended-A: U+0080 to U+017F

16151 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
16152 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
16153 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
16154 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
16155 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
16156 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
16157 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
16158 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
16159 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
16160 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
16161 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek

16162 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
16163 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
16164 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
16165 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
16166 \DeclareTextCompositeCommand{\`}{PU}{c}{\81\007}% U+0107  
16167 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
16168 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
16169 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
16170 \DeclareTextCompositeCommand{\`}{PU}{c}{\81\011}% U+0109  
16171 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-  
cent  
16172 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
16173 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
16174 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
16175 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
16176 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
16177 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
16178 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
16179 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
16180 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
16181 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
16182 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
16183 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
16184 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
16185 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;  
16186 % \textcrd (tipa)  
16187 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
16188 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111  
16189 %\* \textcrd -> \crossd (wsuipa)  
16190 % An alternate glyph with the stroke through the bowl:  
16191 %\* \textcrd -> \textbard (tipa)  
16192 %\* \textcrd -> \bard (wsuipa)  
16193 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
16194 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
16195 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
16196 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
16197 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
16198 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
16199 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
16200 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
16201 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
16202 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
16203 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
16204 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
16205 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
16206 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
16207 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
16208 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
16209 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
16210 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
16211 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
16212 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
16213 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
16214 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
16215 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
16216 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
16217 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve

16218 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
16219 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
16220 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
16221 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
16222 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
16223 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
16224 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
16225 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
16226 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
16227 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
16228 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
16229 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
16230 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
16231 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
16232 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
16233 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
16234 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
16235 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)  
16236 \DeclareTextCommand{\textthbar}{PU}{\81\047}%\* U+0127  
16237 %\* \textthbar -> \textcrh (tipa)  
16238 %\* \textthbar -> \crossh (wsuipa)  
16239 %\* \textthbar -> \planck (phonetic)  
16240 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
16241 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
16242 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
16243 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
16244 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129  
16245 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
16246 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
16247 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
16248 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
16249 \DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B  
16250 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
16251 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
16252 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
16253 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
16254 \DeclareTextCompositeCommand{\u}{PU}{\i}{\81\055}% U+012D  
16255 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
16256 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
16257 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
16258 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
16259 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F  
16260 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
16261 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
16262 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
16263 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
16264 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
16265 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
16266 % U+0133 LATIN SMALL LIGATURE IJ; ij  
16267 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
16268 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
16269 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
16270 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
16271 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
16272 \DeclareTextCompositeCommand{\^}{PU}{\j}{\81\065}% U+0135

16273 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
16274 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
16275 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
16276 \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`.

16277 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
16278 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
16279 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
16280 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
16281 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
16282 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
16283 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
16284 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
16285 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
16286 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
16287 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
16288 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
16289 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
16290 \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`.

16291 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
16292 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
16293 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
16294 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
16295 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
16296 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
16297 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
16298 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
16299 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
16300 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
16301 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
16302 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
16303 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
16304 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
16305 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
16306 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
16307 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
16308 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
16309 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
16310 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
16311 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
16312 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
16313 % U+014A LATIN CAPITAL LETTER ENG; Eng  
16314 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
16315 % U+014B LATIN SMALL LETTER ENG; eng  
16316 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
16317 %\* \ng -> \eng (wsuipa)



16318 %\* \ng -> \engma (phonetic)  
 16319 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
 16320 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
 16321 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
 16322 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
 16323 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
 16324 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
 16325 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
 16326 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
 16327 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblac-  
 cute, Ohungarumlaut  
 16328 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
 16329 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-  
 cute, ohungarumlaut  
 16330 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
 16331 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 16332 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
 16333 % U+0153 LATIN SMALL LIGATURE OE; oe  
 16334 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
 16335 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
 16336 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
 16337 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
 16338 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
 16339 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-  
 cent  
 16340 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
 16341 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
 16342 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
 16343 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
 16344 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
 16345 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
 16346 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
 16347 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
 16348 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
 16349 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
 16350 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
 16351 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
 16352 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
 16353 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
 16354 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
 16355 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
 16356 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
 16357 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
 16358 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
 16359 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 16360 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
 16361 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 16362 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
 16363 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-  
 cent  
 16364 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
 16365 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
 16366 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
 16367 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
 16368 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
 16369 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
 16370 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165

16371 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
 16372 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
 16373 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
 16374 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
 16375 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
 16376 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
 16377 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
 16378 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 16379 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
 16380 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
 16381 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
 16382 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
 16383 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
 16384 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
 16385 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
 16386 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
 16387 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
 16388 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
 16389 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
 16390 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
 16391 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Uddbl-  
 cute, Uhungarumlaut  
 16392 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
 16393 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; uddbl-  
 cute, uhungarumlaut  
 16394 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
 16395 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
 16396 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
 16397 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
 16398 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
 16399 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
 16400 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
 16401 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
 16402 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
 16403 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
 16404 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 16405 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 16406 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 16407 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 16408 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
 16409 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 16410 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
 16411 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 16412 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 16413 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 16414 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 16415 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 16416 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 16417 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 16418 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 16419 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 16420 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 16421 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 16422 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

### 51.2.5 Latin Extended-B: U+0180 to U+024F

16423 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)

16424 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180  
16425 %\* \textcrb -> \crossb (wsuipa)  
16426 % An alternate glyph with the stroke through the bowl:  
16427 %\* \textcrb -> \textbarb (tipa)  
16428 %\* \textcrb -> \barb (wsuipa)  
16429 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (phonetic)  
16430 \DeclareTextCommand{\texthausab}{PU}{\81\201}%\* U+0181  
16431 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)  
16432 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188  
16433 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (phonetic)  
16434 \DeclareTextCommand{\texthausad}{PU}{\81\212}%\* U+018A  
16435 % U+018E LATIN CAPITAL LETTER REVERSED E; Ereversed  
16436 \DeclareTextCommand{\textEreversed}{PU}{\81\216}% U+018E  
16437 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E  
16438 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
16439 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
16440 %\* \textflorin -> \Florin (marvosym)  
16441 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)  
16442 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195  
16443 %\* \texthvlig -> \hv (wsuipa)  
16444 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (phonetic)  
16445 \DeclareTextCommand{\texthausak}{PU}{\81\230}%\* U+0198  
16446 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)  
16447 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199  
16448 %\* \texthtk -> \hausak (phonetic)  
16449 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;  
16450 % \textbarl (tipa), \barl (wsuipa)  
16451 \DeclareTextCommand{\textbarl}{PU}{\81\232}%\* U+019A  
16452 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/  
16453 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;  
16454 % \textcrlambda (tipa)  
16455 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B  
16456 %\* \textcrlambda -> \crossnilambda (wsuipa)  
16457 %\* \textcrlambda -> \barlambd (phonetic)  
16458 %\* \textcrlambda -> \lambdabar (txfonts/pxfonts)  
16459 %\* \textcrlambda -> \lambdash (txfonts/pxfonts)  
16460 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-long;  
16461 % \textnrleg (tipx)  
16462 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E  
16463 %\* \textPUnrleg -> \textnrleg (tipx)  
16464 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)  
16465 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5  
16466 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;  
16467 % \textlhookt (tipa)  
16468 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB  
16469 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)  
16470 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD  
16471 % U+01B9 LATIN SMALL LETTER EZH REVERSED/  
16472 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)  
16473 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9  
16474 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)  
16475 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB  
16476 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;

16477 % glottalinvertedstroke; \textcrinvglotstop (tipa)  
16478 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE  
16479 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)  
16480 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF  
16481 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-  
tal;  
16482 % \textpipe (tipa)  
16483 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0  
16484 %\* \textpipe -> \textpipevar (tipx)  
16485 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER  
16486 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)  
16487 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1  
16488 %\* \textdoublepipe -> \textdoublepipevar (tipx)  
16489 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-  
BLE BAR;  
16490 % clickalveolar; \textdoublebarpipe (tipa)  
16491 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2  
16492 %\* \textdoublebarpipe -> \textdoublebarpipevar (tipx)  
16493 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
16494 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
16495 % U+01CE LATIN SMALL LETTER A WITH CARON; acarón  
16496 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
16497 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
16498 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
16499 % U+01D0 LATIN SMALL LETTER I WITH CARON; icarón  
16500 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
16501 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
16502 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
16503 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
16504 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocarón  
16505 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
16506 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
16507 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
16508 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucarón  
16509 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
16510 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)  
16511 \DeclareTextCommand{\textinve}{PU}{\81\335}%\* U+01DD  
16512 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
16513 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
16514 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
16515 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
16516 %\* \textgslash -> \textcrg (tipa)  
16517 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
16518 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
16519 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcarón  
16520 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
16521 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
16522 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
16523 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcarón  
16524 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
16525 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
16526 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
16527 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
16528 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
16529 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcarón  
16530 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
16531 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0

16532 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
16533 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
16534 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
16535 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
16536 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
16537 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8  
16538 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
16539 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9  
16540 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
16541 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
16542 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
16543 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
16544 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;  
16545 % \*Oslashacute, Ostrokeacut  
16546 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
16547 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;  
16548 % \*oslashacute, ostrokeacute  
16549 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
16550 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
16551 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
16552 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
16553 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
16554 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
16555 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
16556 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
16557 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
16558 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-  
edbreve  
16559 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206  
16560 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einverted-  
breve  
16561 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207  
16562 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
16563 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
16564 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
16565 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16566 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16567 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; iinverted-  
breve  
16568 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A  
16569 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-  
breve  
16570 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
16571 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
16572 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
16573 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
16574 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
16575 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
16576 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-  
edbreve  
16577 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E  
16578 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-  
breve  
16579 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F  
16580 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
16581 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
16582 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave

16583 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
 16584 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
 16585 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
 16586 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
 16587 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 16588 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-  
 edbreve  
 16589 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216  
 16590 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-  
 breve  
 16591 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217  
 16592 % U+021E LATIN CAPITAL LETTER H WITH CARON  
 16593 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 16594 % U+021F LATIN SMALL LETTER H WITH CARON  
 16595 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 16596 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)  
 16597 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221  
 16598 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)  
 16599 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225  
 16600 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 16601 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 16602 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 16603 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 16604 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 16605 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 16606 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 16607 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 16608 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 16609 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 16610 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 16611 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 16612 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 16613 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 16614 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 16615 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 16616 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)  
 16617 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235  
 16618 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)  
 16619 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236  
 16620 % U+0237 LATIN SMALL LETTER DOTLESS J  
 16621 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237  
 16622 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)  
 16623 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238  
 16624 %\* \textPUdblig -> \textdblig (tipx)  
 16625 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)  
 16626 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239  
 16627 %\* \textPUqplig -> \textqplig (tipx)  
 16628 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)  
 16629 \DeclareTextCommand{\textslashc}{PU}{\82\074}%\* U+023C  
 16630 %\* \textslashc -> \textcentoldstyle (textcomp)  
 16631 % With bar instead of stroke:  
 16632 %\* \textslashc -> \textbarc (tipa)

### 51.2.6 IPA Extensions: U+0250 to U+02AF

16633 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)  
 16634 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250  
 16635 %\* \textturna -> \inva (wasysym)

16636 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER  
16637 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)  
16638 \DeclareTextCommand{\textscripta}{PU}{\82\121}%\* U+0251  
16639 %\* \textscripta -> \vara (phonetic)  
16640 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;  
16641 % \textturnscripta (tipa)  
16642 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252  
16643 %\* \textturnscripta -> \invscripta (wsuipa)  
16644 %\* \textturnscripta -> \rotvara (phonetic)  
16645 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)  
16646 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253  
16647 %\* \texthtb -> \hookb (wsuipa)  
16648 %\* \texthtb -> \hausab (phonetic)  
16649 % U+0254 LATIN SMALL LETTER OPEN O; oopen;  
16650 % \textopeno (tipa), \openo (wasysym)  
16651 \DeclareTextCommand{\textopeno}{PU}{\82\124}%\* U+0254  
16652 %\* \textopeno -> \varopeno (phonetic)  
16653 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)  
16654 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255  
16655 %\* \textctc -> \curlyc (wsuipa)  
16656 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)  
16657 \DeclareTextCommand{\textrtaild}{PU}{\82\126}%\* U+0256  
16658 %\* \textrtaild -> \taild (wsuipa)  
16659 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)  
16660 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257  
16661 %\* \texthtd -> \hookd (wsuipa)  
16662 %\* \texthtd -> \hausad (phonetic)  
16663 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;  
16664 % \textreve (tipa), \reve (wsuipa)  
16665 \DeclareTextCommand{\textreve}{PU}{\82\130}%\* U+0258  
16666 % U+0259 LATIN SMALL LETTER SCHWA; schwa;  
16667 % \textschwa (tipa), \schwa (wsuipa, phonetic)  
16668 \DeclareTextCommand{\textschwa}{PU}{\82\131}%\* U+0259  
16669 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;  
16670 % \textrhookswa (tipa)  
16671 \DeclareTextCommand{\textrhookswa}{PU}{\82\132}% U+025A  
16672 %\* \textrhookswa -> \er (wsuipa)  
16673 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-  
SILON; eopen;  
16674 % \niepsilon (wsuipa)  
16675 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}%\* U+025B  
16676 %\* \textniepsilon -> \epsi (phonetic)  
16677 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;  
16678 % \textrevepsilon (tipa), \revepsilon (wsuipa)  
16679 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}%\* U+025C  
16680 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-  
reversedhook;  
16681 % \textrhookrevepsilon (tipa)  
16682 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}%\* U+025D  
16683 %\* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)  
16684 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-  
versedclosed;  
16685 % \textcloserevepsilon (tipa)  
16686 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E  
16687 %\* \textcloserevepsilon -> \closedrevepsilon (wsuipa)  
16688 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-  
lessstroke;

16689 % \textbardotlessj (tipa)  
16690 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F  
16691 %\* \textbardotlessj -> \barj (phonetic)  
16692 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)  
16693 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260  
16694 %\* \texthtg -> \hookg (wsuipa)  
16695 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;  
16696 % \textscriptg (tipa), \scriptg (wsuipa)  
16697 \DeclareTextCommand{\textscriptg}{PU}{\82\141}%\* U+0261  
16698 %\* \textscriptg -> \varg (phonetic)  
16699 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)  
16700 \DeclareTextCommand{\textscg}{PU}{\82\142}%\* U+0262  
16701 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinssmall;  
16702 % \ipagamma (wsuipa), \vod (phonetic)  
16703 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%\* U+0263  
16704 %\* \textipagamma -> \vod (pnonetic)  
16705 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;  
16706 % \babygamma (wsuipa)  
16707 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%\* U+0264  
16708 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)  
16709 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265  
16710 %\* \textturnh -> \invh (wsuipa)  
16711 %\* \textturnh -> \udesc (phonetic)  
16712 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)  
16713 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266  
16714 %\* \texthth -> \hookh (wsuipa)  
16715 %\* \texthth -> \voicedh (phonetic)  
16716 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \texththeng (tipa)  
16717 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267  
16718 %\* \texththeng -> \hookheng (wsuipa)  
16719 % U+0268 LATIN SMALL LETTER I WITH STROKE;  
16720 % \textbari (tipa), \bari (wsuipa)  
16721 \DeclareTextCommand{\textbari}{PU}{\82\150}%\* U+0268  
16722 %\* \textbari -> \ibar (phonetic)  
16723 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \nniota (wsuipa)  
16724 \DeclareTextCommand{\textnniota}{PU}{\82\151}%\* U+0269  
16725 %\* \textnniota -> \vari (phonetic)  
16726 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)  
16727 \DeclareTextCommand{\textsci}{PU}{\82\152}%\* U+026A  
16728 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;  
16729 % \textltilde (tipa)  
16730 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B  
16731 %\* \textltilde -> \tildel (wsuipa)  
16732 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)  
16733 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C  
16734 %\* \textbeltl -> \latfric (wsuipa)  
16735 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;  
16736 % \hookretroflex; \textrtaill (tipa)  
16737 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D  
16738 %\* \textrtaill -> \taill (wsuipa)  
16739 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)  
16740 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E  
16741 %\* \textlyoghlig -> \lz (wsuipa)  
16742 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)  
16743 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F  
16744 %\* \textturnm -> \invm (wsuipa)



16745 %\* \textturnm -> \rotm (phonetic)  
 16746 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlongleg-  
 turned;  
 16747 % \textturnmrleg (tipa)  
 16748 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270  
 16749 %\* \textturnmrleg -> \legm (wsuipa)  
 16750 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)  
 16751 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271  
 16752 %\* \textltailm -> \labdentalnas (wsuipa)  
 16753 %\* \textltailm -> \emgma (phonetic)  
 16754 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textl-  
 tailn (tipa)  
 16755 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272  
 16756 %\* \textltailn -> \nj (wsuipa)  
 16757 %\* \textltailn -> \enya (phonetic)  
 16758 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;  
 16759 % nhookretroflex; \textrtailn (tipa)  
 16760 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273  
 16761 %\* \textrtailn -> \tailn (wsuipa)  
 16762 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)  
 16763 \DeclareTextCommand{\textscn}{PU}{\82\164}% U+0274  
 16764 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/  
 16765 % LATIN CAPITAL LETTER BARRED O; obarred;  
 16766 % \textbaro (tipa), \baro (wsuipa)  
 16767 % But \baro from stmaryrd is different!  
 16768 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275  
 16769 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscoeelig (tipa)  
 16770 \DeclareTextCommand{\textscoeelig}{PU}{\82\166}% U+0276  
 16771 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;  
 16772 % \textcloseomega (tipa)  
 16773 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277  
 16774 %\* \textcloseomega -> \closedniomega (wsuipa)  
 16775 %\* \textcloseomega -> \varomega (phonetic)  
 16776 % U+0278 LATIN SMALL LETTER PHI; philatin; \nipher (wsuipa)  
 16777 \DeclareTextCommand{\textnipher}{PU}{\82\170}% U+0278  
 16778 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)  
 16779 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279  
 16780 %\* \textturnr -> \invr (wsuipa)  
 16781 %\* \textturnr -> \rotr (phonetic)  
 16782 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;  
 16783 % rlonglegturned; \textturnlongleg (tipa)  
 16784 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A  
 16785 %\* \textturnlongleg -> \invleg (wsuipa)  
 16786 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhookturned;  
 16787 % \textturnrrtail (tipa)  
 16788 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B  
 16789 %\* \textturnrrtail -> \tailinvr (wsuipa)  
 16790 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlon-  
 glegr (tipa)  
 16791 \DeclareTextCommand{\textlongleg}{PU}{\82\174}% U+027C  
 16792 %\* \textlongleg -> \leg (wsuipa)  
 16793 % U+027D LATIN SMALL LETTER R WITH TAIL; rhook; \textrtailr (tipa)  
 16794 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D  
 16795 %\* \textrtailr -> \tailr (wsuipa)  
 16796 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;  
 16797 % \textfishhook (tipa)  
 16798 \DeclareTextCommand{\textfishhook}{PU}{\82\176}% U+027E

16799 %\* \textfishhookr -> \flapr (wsuipa)  
 16800 %\* \textfishhookr -> \flap (phonetic)  
 16801 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfishhookreversed;  
 16802 % \textlhtlongi (tipa)  
 16803 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F  
 16804 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)  
 16805 \DeclareTextCommand{\textscr}{PU}{\82\200}%\* U+0280  
 16806 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;  
 16807 % \textinvscr (tipa), \invscr (wsuipa)  
 16808 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%\* U+0281  
 16809 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \textrtails (tipa)  
 16810 \DeclareTextCommand{\textrtails}{PU}{\82\202}% U+0282  
 16811 %\* \textrtails -> \tails (wsuipa)  
 16812 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)  
 16813 \DeclareTextCommand{\textesh}{PU}{\82\203}%\* U+0283  
 16814 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;  
 16815 % dotlessjstrokehook; \texthtbardotlessj (tipa)  
 16816 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284  
 16817 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatreversed;  
 16818 % \textvibyi (tipa)  
 16819 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285  
 16820 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)  
 16821 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286  
 16822 %\* \textctesh -> \curlyesh (wsuipa)  
 16823 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)  
 16824 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287  
 16825 %\* \textturnt -> \clickt (wsuipa)  
 16826 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflexhook;  
 16827 % \texttrtailt (tipa)  
 16828 \DeclareTextCommand{\texttrtailt}{PU}{\82\210}% U+0288  
 16829 %\* \texttrtailt -> \tailt (wsuipa)  
 16830 % U+0289 LATIN SMALL LETTER U BAR; ubar;  
 16831 % \textbaru (tipa), \baru (wsuipa)  
 16832 \DeclareTextCommand{\textbaru}{PU}{\82\211}%\* U+0289  
 16833 %\* \textbaru -> \ubar (phonetic)  
 16834 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)  
 16835 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%\* U+028A  
 16836 %\* \textniupsilon -> \rotOmega (phonetic)  
 16837 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LETTER SCRIPT V;  
 16838 % vhook; \textscriptv (tipa), \scriptv (wsuipa)  
 16839 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%\* U+028B  
 16840 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)  
 16841 \DeclareTextCommand{\textturnv}{PU}{\82\214}%\* U+028C  
 16842 %\* \textturnv -> \invv (wsuipa)  
 16843 %\* \textturnv -> \pwedge (phonetic)  
 16844 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)  
 16845 \DeclareTextCommand{\textturnw}{PU}{\82\215}%\* U+028D  
 16846 %\* \textturnw -> \invw (wsuipa)  
 16847 %\* \textturnw -> \rotw (phonetic)  
 16848 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)  
 16849 \DeclareTextCommand{\textturny}{PU}{\82\216}%\* U+028E  
 16850 %\* \textturny -> \invy (wsuipa)  
 16851 %\* \textturny -> \roty (phonetic)

16852 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)  
 16853 \DeclareTextCommand{\textscy}{PU}{\82\217}%\* U+028F  
 16854 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-hook;  
 16855 % \textrtailz (tipa)  
 16856 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290  
 16857 %\* \textrtailz -> \tailz (wsuipa)  
 16858 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)  
 16859 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291  
 16860 %\* \textctz -> \curlyz (wsuipa)  
 16861 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;  
 16862 % \textyogh (tipa), \yogh (wsuipa)  
 16863 \DeclareTextCommand{\textyogh}{PU}{\82\222}%\* U+0292  
 16864 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LETTER YOGH CURL;  
 16865 % ezhcurl; \textctyogh (tipa)  
 16866 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293  
 16867 %\* \textctyogh -> \curlyyogh (wsuipa)  
 16868 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;  
 16869 % \textglotstop (tipa), \glotstop (wsuipa)  
 16870 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%\* U+0294  
 16871 %\* \textglotstop -> \ejective (wsuipa)  
 16872 %\* \textglotstop -> \glottal (phonetic)  
 16873 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/  
 16874 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;  
 16875 % \textrevglotstop (tipa), \revglotstop (wsuipa)  
 16876 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%\* U+0295  
 16877 %\* \textrevglotstop -> \reveject (wsuipa)  
 16878 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;  
 16879 % \textinvglotstop (tipa), \invglotstop (wsuipa)  
 16880 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%\* U+0296  
 16881 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)  
 16882 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297  
 16883 %\* \textstretchc -> \clickc (wsuipa)  
 16884 %\* \textstretchc -> \textstretchcvar (tipx)  
 16885 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;  
 16886 % \textbullseye (tipa)  
 16887 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298  
 16888 %\* \textbullseye -> \clickb (wsuipa)  
 16889 %\* \textbullseye -> \textObullseye (tipx)  
 16890 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)  
 16891 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299  
 16892 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;  
 16893 % \textcloseepsilon (tipa)  
 16894 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A  
 16895 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;  
 16896 % \texthtscg (tipa)  
 16897 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B  
 16898 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)  
 16899 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C  
 16900 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossetail; \textcdj (tipa)  
 16901 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D  
 16902 %\* \textctj -> \textctjvar (tipx)  
 16903 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)  
 16904 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E  
 16905 %\* \textturnk -> \textturnsck (tipx)

16906 % U+029F LATIN LETTER SMALL CAPITAL L; \textscL (tipa)  
 16907 \DeclareTextCommand{\textscL}{PU}{\82\237}% U+029F  
 16908 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)  
 16909 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0  
 16910 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-stroke;  
 16911 % \textbarglotstop (tipa)  
 16912 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1  
 16913 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/  
 16914 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokereversed;  
 16915 % \textbarrevglotstop (tipa)  
 16916 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2  
 16917 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)  
 16918 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3  
 16919 %\* \textdzlig -> \dz (wsupipa)  
 16920 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyoghlig (tipa)  
 16921 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4  
 16922 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;  
 16923 % \textdctzlig (tipa)  
 16924 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5  
 16925 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)  
 16926 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6  
 16927 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \textteshlig (tipa)  
 16928 \DeclareTextCommand{\textteshlig}{PU}{\82\247}% U+02A7  
 16929 %\* \textteshlig -> \tesh (wsuipa)  
 16930 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;  
 16931 % \texttctclig (tipa)  
 16932 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8  
 16933 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;  
 16934 % \textlhtlongy (tipa)  
 16935 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE  
 16936 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;  
 16937 % \textvibyy (tipa)  
 16938 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

### 51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16939 % U+02BD MODIFIER LETTER REVERSED COMMA;  
 16940 % commareversedmod, afi64937; \textrevapostrophe (tipa)  
 16941 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD  
 16942 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;  
 16943 % \textraiseglotstop (tipa)  
 16944 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0  
 16945 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;  
 16946 % \textlptr (tipa)  
 16947 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2  
 16948 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;  
 16949 % \textrptr (tipa)  
 16950 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3  
 16951 % U+02C7 CARON; caron  
 16952 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 16953 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;  
 16954 % \textprimstress (tipa)  
 16955 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8  
 16956 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;  
 16957 % \textsecstress (tipa)

16958 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC  
 16959 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;  
 16960 % \textlengthmark (tipa)  
 16961 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0  
 16962 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangularhalfmod;  
 16963 % \texthalflength (tipa)  
 16964 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1  
 16965 % U+02D8 BREVE; breve  
 16966 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 16967 % U+02D9 DOT ABOVE; dotaccent  
 16968 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 16969 % U+02DA RING ABOVE; ring  
 16970 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 16971 % U+02DB OGONEK; ogonek  
 16972 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 16973 % U+02DC SMALL TILDE; ilde, \*tilde  
 16974 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 16975 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 16976 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 16977 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD  
 16978 % U+02F3 MODIFIER LETTER LOW RING  
 16979 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3  
 16980 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 16981 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 16982 % U+02F7 MODIFIER LETTER LOW TILDE  
 16983 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7  
 16984 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)  
 16985 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9  
 16986 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)  
 16987 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

### 51.2.8 Combining Diacritical Marks: U+0300 to U+036F

16988 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 16989 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 16990 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 16991 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 16992 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcmb  
 16993 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 16994 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 16995 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 16996 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 16997 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

### 51.2.9 Greek and Coptic: U+0370 to U+03FF

16998 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 16999 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 17000 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 17001 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 17002 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos  
 17003 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 17004 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 17005 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 17006 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 17007 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 17008 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos

17009 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
17010 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos  
17011 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
17012 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos  
17013 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
17014 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
17015 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
17016 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;  
17017 % iotadieresisistonos  
17018 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
17019 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
17020 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
17021 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
17022 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
17023 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)  
17024 \DeclareTextCommand{\textGamma}{PU}{\83\223}%\* U+0393  
17025 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta; \Delta (LaTeX)  
17026 \DeclareTextCommand{\textDelta}{PU}{\83\224}%\* U+0394  
17027 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
17028 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
17029 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
17030 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
17031 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
17032 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
17033 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)  
17034 \DeclareTextCommand{\textTheta}{PU}{\83\230}%\* U+0398  
17035 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
17036 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
17037 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
17038 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
17039 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)  
17040 \DeclareTextCommand{\textLambda}{PU}{\83\233}%\* U+039B  
17041 % U+039C GREEK CAPITAL LETTER MU; Mu  
17042 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
17043 % U+039D GREEK CAPITAL LETTER NU; Nu  
17044 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
17045 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)  
17046 \DeclareTextCommand{\textXi}{PU}{\83\236}%\* U+039E  
17047 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
17048 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
17049 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
17050 \DeclareTextCommand{\textPi}{PU}{\83\240}%\* U+03A0  
17051 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
17052 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
17053 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)  
17054 \DeclareTextCommand{\textSigma}{PU}{\83\243}%\* U+03A3  
17055 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
17056 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
17057 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)  
17058 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%\* U+03A5  
17059 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)  
17060 \DeclareTextCommand{\textPhi}{PU}{\83\246}%\* U+03A6  
17061 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
17062 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
17063 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)

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17064 \DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8
17065 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega;
17066 % \Omega (LaTeX)
17067 \DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9
17068 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
17069 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
17070 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
17071 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
silondieresis
17072 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
17073 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
17074 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}%* U+03AC
17075 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilonos
17076 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
17077 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
17078 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
17079 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotonos
17080 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
17081 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA
17082 % AND TONOS; upsilondieresisto
17083 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0
17084 % U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)
17085 \DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1
17086 % U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)
17087 \DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2
17088 % U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)
17089 \DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3
17090 % U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)
17091 \DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4
17092 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)
17093 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5
17094 % U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)
17095 \DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6
17096 % U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)
17097 \DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7
17098 % U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)
17099 \DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8
17100 % U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)
17101 \DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9
17102 % U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)
17103 \DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA
17104 % U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)
17105 \DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB
17106 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu; \mu (LaTeX)
17107 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC
17108 % U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)
17109 \DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD
17110 % U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)
17111 \DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE
17112 % U+03BF GREEK SMALL LETTER OMICRON; omicron
17113 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
17114 % U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)
17115 \DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0
17116 % U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)
17117 \DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1
17118 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
17119 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2

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17120 % U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)
17121 \DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3
17122 % U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)
17123 \DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4
17124 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)
17125 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5
17126 % U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)
17127 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
17128 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)
17129 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
17130 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)
17131 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
17132 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)
17133 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
17134 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
17135 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
17136 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
      silondieresis
17137 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
17138 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
17139 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
17140 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
17141 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
17142 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
17143 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
17144 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
17145 % U+03DA GREEK LETTER STIGMA; Stigmatagreek
17146 \DeclareTextCommand{\textStigmatagreek}{PU}{\83\332}% U+03DA
17147 % U+03DB GREEK SMALL LETTER STIGMA
17148 \DeclareTextCommand{\textstigmatagreek}{PU}{\83\333}% U+03DB
17149 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
17150 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
17151 % U+03DD GREEK SMALL LETTER DIGAMMA
17152 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
17153 %* \textdigammagreek -> \digamma (AmS)
17154 % U+03DE GREEK LETTER KOPPA; Koppagreek
17155 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
17156 % U+03DF GREEK SMALL LETTER KOPPA
17157 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
17158 % U+03E0 GREEK LETTER SAMPI; Sampigreek
17159 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
17160 % U+03E1 GREEK SMALL LETTER SAMPI
17161 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1
17162 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;
17163 % \backepsilon (AmS)
17164 \DeclareTextCommand{\textbackepsilon}{PU}{\83\366}% U+03F6

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### 51.2.10 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

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17165 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
17166 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400
17167 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
17168 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
17169 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% U+0401
17170 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
17171 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402

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17172 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
17173 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403  
17174 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, \*afii10053  
17175 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
17176 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
17177 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
17178 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;  
17179 % Icyrillic, \*afii10055  
17180 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
17181 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
17182 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
17183 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407  
17184 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
17185 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
17186 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
17187 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
17188 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
17189 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
17190 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
17191 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
17192 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
17193 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
17194 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
17195 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D  
17196 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
17197 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
17198 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
17199 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
17200 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
17201 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
17202 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
17203 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
17204 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
17205 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
17206 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
17207 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
17208 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
17209 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
17210 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
17211 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
17212 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
17213 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
17214 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
17215 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
17216 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
17217 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
17218 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
17219 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
17220 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
17221 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
17222 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
17223 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
17224 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
17225 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
17226 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
17227 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
17228 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031

17229 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
17230 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
17231 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
17232 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
17233 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
17234 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
17235 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
17236 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
17237 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
17238 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
17239 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
17240 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
17241 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
17242 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
17243 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
17244 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
17245 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
17246 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
17247 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
17248 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
17249 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
17250 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
17251 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
17252 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
17253 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
17254 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;  
17255 % Hardsigncyrillic, \*afii10044  
17256 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
17257 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
17258 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
17259 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;  
17260 % Softsigncyrillic, \*afii10046  
17261 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
17262 % U+042D CYRILLIC CAPITAL LETTER E; Eversedcyrillic, \*afii10047  
17263 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
17264 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
17265 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
17266 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
17267 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
17268 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
17269 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
17270 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
17271 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
17272 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
17273 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
17274 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
17275 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
17276 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
17277 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
17278 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
17279 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
17280 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhacyrillic  
17281 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436  
17282 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
17283 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
17284 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
17285 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438

17286 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
17287 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
17288 \DeclareTextCompositeCommand{\U}{PU}{\cyr}{\84\071}% U+0439  
17289 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
17290 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
17291 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
17292 \DeclareTextCommand{\cyr}{PU}{\84\073}% U+043B  
17293 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
17294 \DeclareTextCommand{\cyr}{PU}{\84\074}% U+043C  
17295 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
17296 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
17297 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
17298 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
17299 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
17300 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
17301 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
17302 \DeclareTextCommand{\cyr}{PU}{\84\100}% U+0440  
17303 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
17304 \DeclareTextCommand{\cyr}{PU}{\84\101}% U+0441  
17305 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
17306 \DeclareTextCommand{\cyr}{PU}{\84\102}% U+0442  
17307 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
17308 \DeclareTextCommand{\cyr}{PU}{\84\103}% U+0443  
17309 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
17310 \DeclareTextCommand{\cyr}{PU}{\84\104}% U+0444  
17311 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
17312 \DeclareTextCommand{\cyr}{PU}{\84\105}% U+0445  
17313 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
17314 \DeclareTextCommand{\cyr}{PU}{\84\106}% U+0446  
17315 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
17316 \DeclareTextCommand{\cyr}{PU}{\84\107}% U+0447  
17317 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
17318 \DeclareTextCommand{\cyr}{PU}{\84\110}% U+0448  
17319 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
17320 \DeclareTextCommand{\cyr}{PU}{\84\111}% U+0449  
17321 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
17322 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
17323 %\* \cyrhrdsn -> \hardsign (tipa)  
17324 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
17325 \DeclareTextCommand{\cyr}{PU}{\84\113}% U+044B  
17326 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
17327 \DeclareTextCommand{\cyr}{PU}{\84\114}% U+044C  
17328 %\* \cyrsoftsn -> \softsign (tipa)  
17329 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
17330 \DeclareTextCommand{\cyr}{PU}{\84\115}% U+044D  
17331 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
17332 \DeclareTextCommand{\cyr}{PU}{\84\116}% U+044E  
17333 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
17334 \DeclareTextCommand{\cyr}{PU}{\84\117}% U+044F  
17335 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
17336 \DeclareTextCompositeCommand{\'}{PU}{\cyr}{\84\120}% U+0450  
17337 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
17338 \DeclareTextCommand{\cyr}{PU}{\84\121}% U+0451  
17339 \DeclareTextCompositeCommand{\"}{PU}{\cyr}{\84\121}% U+0451  
17340 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
17341 \DeclareTextCommand{\cyr}{PU}{\84\122}% U+0452

17342 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
17343 \DeclareTextCompositeCommand{\'}{PU}{\cyr}{\84\123}% U+0453  
17344 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
17345 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
17346 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
17347 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
17348 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;  
17349 % \*afii10103, icyrillic  
17350 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
17351 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
17352 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
17353 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
17354 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
17355 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
17356 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
17357 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459  
17358 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
17359 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
17360 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
17361 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
17362 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
17363 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
17364 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
17365 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
17366 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
17367 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
17368 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
17369 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
17370 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
17371 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
17372 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
17373 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
17374 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
17375 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
17376 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
17377 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
17378 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
17379 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
17380 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
17381 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
17382 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
17383 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslitlecyrillic  
17384 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
17385 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslitlecyrillic  
17386 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
17387 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-  
otifiedcyrillic  
17388 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
17389 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitlei-  
otifiedcyrillic  
17390 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
17391 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
17392 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
17393 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
17394 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
17395 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
cyrillic

17396 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
 17397 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-cyrillic  
 17398 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
 17399 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
 17400 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
 17401 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
 17402 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
 17403 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
 17404 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
 17405 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
 17406 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
 17407 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
 17408 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
 17409 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
 17410 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
 17411 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
 17412 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
 17413 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
 17414 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
 17415 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE  
 17416 % GRAVE ACCENT; Izhitsadblgravecyrillic  
 17417 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
 17418 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE  
 17419 % GRAVE ACCENT; izhitsadblgravecyrillic  
 17420 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 17421 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 17422 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 17423 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 17424 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 17425 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
 17426 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 17427 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 17428 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 17429 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
 17430 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 17431 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
 17432 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 17433 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 17434 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 17435 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 17436 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 17437 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 17438 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 17439 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 17440 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 17441 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 17442 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalization-cyrilliccmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrilliccmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumat-

acyrilliccmb  
\84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
\84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
\84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
17443 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
17444 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
17445 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
17446 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
17447 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
17448 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
17449 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
17450 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
17451 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
17452 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
17453 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
17454 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
17455 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-  
cyrillic, \*afii10050  
17456 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
17457 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, ghe-  
upturncyrillic  
17458 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
17459 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-  
cyrillic  
17460 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
17461 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
17462 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
17463 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;  
17464 % Ghemiddlehookcyrillic  
17465 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
17466 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;  
17467 % ghemiddlehookcyrillic  
17468 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
17469 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;  
17470 % Zhedescendercyrillic  
17471 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
17472 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;  
17473 % zhedescendercyrillic  
17474 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
17475 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-  
dercyrillic  
17476 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
17477 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
17478 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-  
cyrillic  
17479 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
17480 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
17481 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-  
dercyrillic  
17482 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
17483 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescen-  
dercyrillic  
17484 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
17485 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;  
17486 % Kavertikalstrokecyrillic  
17487 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
17488 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;

17489 % kavertikalstrokecyrillic  
 17490 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
 17491 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
 17492 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
 17493 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
 17494 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
 17495 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 17496 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
 17497 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 17498 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 17499 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-  
 dercyrillic  
 17500 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 17501 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-  
 cyrillic  
 17502 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 17503 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 17504 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 17505 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 17506 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 17507 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-  
 dlehookcyrillic  
 17508 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
 17509 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddle-  
 hookcyrillic  
 17510 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
 17511 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyril-  
 lic  
 17512 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
 17513 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
 17514 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
 17515 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescen-  
 dercyrillic  
 17516 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
 17517 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
 17518 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-  
 cyrillic  
 17519 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
 17520 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB  
 17521 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescen-  
 dercyrillic  
 17522 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
 17523 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescen-  
 dercyrillic  
 17524 \DeclareTextCommand{\cyrtasc}{PU}{\84\255}% U+04AD  
 17525 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
 17526 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
 17527 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
 17528 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
 17529 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Us-  
 traightstrokecyrillic  
 17530 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
 17531 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-  
 traightstrokecyrillic  
 17532 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1  
 17533 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescen-  
 dercyrillic

17534 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
17535 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
17536 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
17537 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
17538 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
17539 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
17540 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
17541 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;  
17542 % Chedescendercyrillic  
17543 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
17544 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
17545 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
17546 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;  
17547 % Cheverticalstrokecyrillic  
17548 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
17549 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;  
17550 % cheverticalstrokecyrillic  
17551 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
17552 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
17553 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
17554 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
17555 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
17556 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic  
17557 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
17558 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
17559 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
17560 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic  
17561 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
17562 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
17563 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic  
17564 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
17565 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
17566 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
17567 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
17568 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
17569 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
17570 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
17571 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
17572 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
17573 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
17574 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
17575 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
17576 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
17577 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
17578 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
17579 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
17580 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
17581 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
17582 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
17583 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8



17584 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-  
 siancyrillic  
 17585 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
 17586 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
 cyrillic  
 17587 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
 17588 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
 17589 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
 17590 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
 17591 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
 17592 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
 17593 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
 17594 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
 17595 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
 17596 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrl-  
 lic  
 17597 \DeclareTextCompositeCommand{\"}{PU}{\CYRA}{\84\322}% U+04D2  
 17598 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
 17599 \DeclareTextCompositeCommand{\"}{PU}{\cyra}{\84\323}% U+04D3  
 17600 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
 17601 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
 17602 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
 17603 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
 17604 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevocyrillic  
 17605 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
 17606 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevocyrillic  
 17607 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
 17608 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
 17609 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
 17610 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
 17611 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
 17612 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;  
 17613 % Schwadiesiscyrillic  
 17614 \DeclareTextCompositeCommand{\"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
 17615 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;  
 17616 % schwadiesiscyrillic  
 17617 \DeclareTextCompositeCommand{\"}{PU}{\cyrschwa}{\84\333}% U+04DB  
 17618 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedie-  
 siscyrillic  
 17619 \DeclareTextCompositeCommand{\"}{PU}{\CYRZH}{\84\334}% U+04DC  
 17620 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-  
 cyrillic  
 17621 \DeclareTextCompositeCommand{\"}{PU}{\cyrzh}{\84\335}% U+04DD  
 17622 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-  
 cyrillic  
 17623 \DeclareTextCompositeCommand{\"}{PU}{\CYRZ}{\84\336}% U+04DE  
 17624 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyril-  
 lic  
 17625 \DeclareTextCompositeCommand{\"}{PU}{\cyrz}{\84\337}% U+04DF  
 17626 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-  
 cyrillic  
 17627 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
 17628 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyril-  
 lic  
 17629 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
 17630 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic

17631 \DeclareTextCompositeCommand{=} {PU}{\CYRI}{\84\342}% U+04E2  
17632 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
17633 \DeclareTextCompositeCommand{=} {PU}{\cyri}{\84\343}% U+04E3  
17634 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
17635 \DeclareTextCompositeCommand{=} {PU}{\CYRI}{\84\344}% U+04E4  
17636 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
17637 \DeclareTextCompositeCommand{=} {PU}{\cyri}{\84\345}% U+04E5  
17638 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
17639 \DeclareTextCompositeCommand{=} {PU}{\CYRO}{\84\346}% U+04E6  
17640 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
17641 \DeclareTextCompositeCommand{=} {PU}{\cyro}{\84\347}% U+04E7  
17642 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
17643 \DeclareTextCompositeCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
17644 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
17645 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
17646 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;  
17647 % Obarreddieresiscyrillic  
17648 \DeclareTextCompositeCommand{=} {PU}{\CYROTLD}{\84\352}% U+04EA  
17649 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;  
17650 % obarreddieresiscyrillic  
17651 \DeclareTextCompositeCommand{=} {PU}{\cyrotld}{\84\353}% U+04EB  
17652 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
17653 \DeclareTextCompositeCommand{=} {PU}{\CYREREV}{\84\354}% U+04EC  
17654 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
17655 \DeclareTextCompositeCommand{=} {PU}{\cyreref}{\84\355}% U+04ED  
17656 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
17657 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\356}% U+04EE  
17658 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
17659 \DeclareTextCompositeCommand{=} {PU}{\cyru}{\84\357}% U+04EF  
17660 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
17661 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\360}% U+04F0  
17662 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
17663 \DeclareTextCompositeCommand{=} {PU}{\cyru}{\84\361}% U+04F1  
17664 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-  
garumlautcyrillic  
17665 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
17666 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-  
garumlautcyrillic  
17667 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
17668 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-  
siscyrillic  
17669 \DeclareTextCompositeCommand{=} {PU}{\CYRCH}{\84\364}% U+04F4  
17670 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chediere-  
siscyrillic  
17671 \DeclareTextCompositeCommand{=} {PU}{\cyrch}{\84\365}% U+04F5  
17672 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
17673 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
17674 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
17675 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
17676 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-  
siscyrillic  
17677 \DeclareTextCompositeCommand{=} {PU}{\CYRERY}{\84\370}% U+04F8  
17678 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-  
siscyrillic  
17679 \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

17680 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK

17681 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC

17682 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK

17683 \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

### 51.2.11 Hebrew: U+0590 to U+05FF

Macro names are taken from `he8enc.def`.

17684 % U+05C3 HEBREW PUNCTUATION SOF PASUQ

17685 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3

17686 % U+05D0 HEBREW LETTER ALEF

17687 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0

17688 % U+05D1 HEBREW LETTER BET

17689 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1

17690 % U+05D2 HEBREW LETTER GIMEL

17691 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2

17692 % U+05D3 HEBREW LETTER DALET

17693 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3

17694 % U+05D4 HEBREW LETTER HE

17695 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4

17696 % U+05D5 HEBREW LETTER VAV

17697 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5

17698 % U+05D6 HEBREW LETTER ZAYIN

17699 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6

17700 % U+05D7 HEBREW LETTER HET

17701 \DeclareTextCommand{\hebhet}{PU}{\85\327}% U+05D7

17702 % U+05D8 HEBREW LETTER TET

17703 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8

17704 % U+05D9 HEBREW LETTER YOD

17705 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9

17706 % U+05DA HEBREW LETTER FINAL KAF

17707 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA

17708 % U+05DB HEBREW LETTER KAF

17709 \DeclareTextCommand{\hebkafe}{PU}{\85\333}% U+05DB

17710 % U+05DC HEBREW LETTER LAMED

17711 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC

17712 % U+05DD HEBREW LETTER FINAL MEM

17713 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD

17714 % U+05DE HEBREW LETTER MEM

17715 \DeclareTextCommand{\hebmem}{PU}{\85\336}% U+05DE

17716 % U+05DF HEBREW LETTER FINAL NUN

17717 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF

17718 % U+05E0 HEBREW LETTER NUN

17719 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0

17720 % U+05E1 HEBREW LETTER SAMEKH

17721 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1

17722 % U+05E2 HEBREW LETTER AYIN

17723 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2

17724 % U+05E3 HEBREW LETTER FINAL PE

17725 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3

17726 % U+05E4 HEBREW LETTER PE  
 17727 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4  
 17728 % U+05E5 HEBREW LETTER FINAL TSADI  
 17729 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5  
 17730 % U+05E6 HEBREW LETTER TSADI  
 17731 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6  
 17732 % U+05E7 HEBREW LETTER QOF  
 17733 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7  
 17734 % U+05E8 HEBREW LETTER RESH  
 17735 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8  
 17736 % U+05E9 HEBREW LETTER SHIN  
 17737 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9  
 17738 %\* \hebshin -> \hebsin (he8)  
 17739 % U+05EA HEBREW LETTER TAV  
 17740 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA  
 17741 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV  
 17742 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0  
 17743 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD  
 17744 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1  
 17745 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD  
 17746 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2

#### 51.2.12 Thai: U+0E00 to U+0E7F

17747 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 17748 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

#### 51.2.13 Phonetic Extensions: U+1D00 to U+1D7F

17749 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textsca (tipa)  
 17750 \DeclareTextCommand{\textsca}{PU}{\9035\000}% U+1D00  
 17751 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)  
 17752 \DeclareTextCommand{\textscd}{PU}{\9035\005}%\* U+1D05  
 17753 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textsce (tipa)  
 17754 \DeclareTextCommand{\textsce}{PU}{\9035\007}% U+1D07  
 17755 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscj (tipa)  
 17756 \DeclareTextCommand{\textscj}{PU}{\9035\012}% U+1D0A  
 17757 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textsk (tipx)  
 17758 \DeclareTextCommand{\textPUsk}{PU}{\9035\013}% U+1D0B  
 17759 %\* \textPUsk -> \textsk (tipx)  
 17760 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscm (tipx)  
 17761 \DeclareTextCommand{\textPUscm}{PU}{\9035\015}% U+1D0D  
 17762 %\* \textPUscm -> \textscm (tipx)  
 17763 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscp (tipx)  
 17764 \DeclareTextCommand{\textPUscp}{PU}{\9035\030}% U+1D18  
 17765 %\* \textPUscp -> \textscp (tipx)  
 17766 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)  
 17767 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19  
 17768 %\* \textPUrevscr -> \textrevscr (tipx)  
 17769 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscu (tipa), \scu (wsuipa)  
 17770 \DeclareTextCommand{\textscu}{PU}{\9035\034}%\* U+1D1C  
 17771 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I  
 17772 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}%\* U+1D62  
 17773 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R  
 17774 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}%\* U+1D63  
 17775 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U  
 17776 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}%\* U+1D64  
 17777 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V

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17778 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}%* U+1D65
17779 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA
17780 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%* U+1D66
17781 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA
17782 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%* U+1D67
17783 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO
17784 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%* U+1D68
17785 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI
17786 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%* U+1D69
17787 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI
17788 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%* U+1D6A
17789 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;
17790 % \barsci (wsuipa)
17791 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%* U+1D7B
17792 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)
17793 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%* U+1D7D
17794 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;
17795 % \barscu (wsuipa)
17796 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%* U+1D7E

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#### 51.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

```

17797 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-
      trhooka (tipx)
17798 \DeclareTextCommand{\textPUrhooka}{PU}{\9035\217}% U+1D8F
17799 %* \textPUrhooka -> \textrhooka (tipx)
17800 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-
      taild (tipa)
17801 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%* U+1D91
17802 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-
      trhooke (tipx)
17803 \DeclareTextCommand{\textPUrhooke}{PU}{\9035\222}% U+1D92
17804 %* \textPUrhooke -> \textrhooke (tipx)
17805 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;
17806 % \textrhookepsilon (tipx)
17807 \DeclareTextCommand{\textPUrhookepsilon}{PU}{\9035\223}% U+1D93
17808 %* \textPUrhookepsilon -> \textrhookepsilon (tipx)
17809 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;
17810 % \textrhookopeno (tipx)
17811 \DeclareTextCommand{\textPUrhookopeno}{PU}{\9035\227}% U+1D97
17812 %* \textPUrhookopeno -> \textrhookopeno (tipx)

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#### 51.2.15 Latin Extended Additional: U+1E00 to U+1EFF

```

17813 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow
17814 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00
17815 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow
17816 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01
17817 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
17818 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
17819 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
17820 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03
17821 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow
17822 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04
17823 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow
17824 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05
17825 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
17826 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
17827 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow

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17828 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
17829 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
17830 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
17831 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
17832 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
17833 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow  
17834 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C  
17835 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow  
17836 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D  
17837 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
17838 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
17839 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
17840 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
17841 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
17842 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
17843 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
17844 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
17845 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-  
cumflexbelow  
17846 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12  
17847 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-  
cumflexbelow  
17848 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13  
17849 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;  
17850 % Emacrongrave  
17851 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14  
17852 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;  
17853 % emacrongrave  
17854 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15  
17855 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;  
17856 % Emacronacute  
17857 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16  
17858 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;  
17859 % emacronacute  
17860 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17  
17861 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-  
cumflexbelow  
17862 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18  
17863 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-  
cumflexbelow  
17864 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19  
17865 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow  
17866 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A  
17867 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow  
17868 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B  
17869 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
17870 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
17871 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
17872 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
17873 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
17874 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
17875 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
17876 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
17877 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
17878 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
17879 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
17880 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23

17881 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow  
17882 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24  
17883 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow  
17884 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25  
17885 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
17886 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
17887 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
17888 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
17889 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
17890 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
17891 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
17892 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
17893 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow  
17894 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A  
17895 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow  
17896 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B  
17897 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow  
17898 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C  
17899 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow  
17900 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D  
17901 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
17902 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
17903 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
17904 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
17905 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow  
17906 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32  
17907 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow  
17908 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33  
17909 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
17910 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
17911 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
17912 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
17913 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow  
17914 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36  
17915 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow  
17916 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37  
17917 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
17918 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
17919 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
17920 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
17921 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-  
cumflexbelow  
17922 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C  
17923 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-  
cumflexbelow  
17924 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D  
17925 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
17926 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
17927 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
17928 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
17929 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
17930 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
17931 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
17932 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
17933 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow  
17934 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42  
17935 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow

17936 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43  
17937 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
17938 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
17939 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
17940 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
17941 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow  
17942 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46  
17943 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow  
17944 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47  
17945 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
17946 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
17947 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
17948 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
17949 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-  
cumflexbelow  
17950 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A  
17951 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-  
cumflexbelow  
17952 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B  
17953 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;  
17954 % Omacrongrave  
17955 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50  
17956 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;  
17957 % omacrongrave  
17958 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51  
17959 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;  
17960 % Omacronacute  
17961 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52  
17962 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;  
17963 % omacronacute  
17964 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53  
17965 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
17966 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
17967 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
17968 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
17969 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
17970 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
17971 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
17972 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
17973 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
17974 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
17975 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
17976 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
17977 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow  
17978 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A  
17979 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow  
17980 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B  
17981 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
17982 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
17983 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
17984 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
17985 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
17986 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
17987 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
17988 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
17989 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow  
17990 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62



17991 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow  
17992 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63  
17993 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent  
17994 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A  
17995 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent  
17996 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B  
17997 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow  
17998 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C  
17999 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow  
18000 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D  
18001 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
18002 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
18003 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
18004 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
18005 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-  
cumflexbelow  
18006 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70  
18007 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-  
cumflexbelow  
18008 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71  
18009 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-  
sisbelow  
18010 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72  
18011 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-  
sisbelow  
18012 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73  
18013 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow  
18014 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74  
18015 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow  
18016 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75  
18017 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-  
cumflexbelow  
18018 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76  
18019 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-  
cumflexbelow  
18020 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77  
18021 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
18022 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
18023 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
18024 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
18025 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow  
18026 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E  
18027 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow  
18028 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F  
18029 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
18030 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
18031 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
18032 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
18033 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
18034 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
18035 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
18036 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
18037 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
18038 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
18039 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
18040 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
18041 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent

18042 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
18043 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
18044 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
18045 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow  
18046 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88  
18047 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow  
18048 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89  
18049 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
18050 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
18051 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
18052 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
18053 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
18054 \DeclareTextCompositeCommand{¨}{PU}{X}{\9036\214}% U+1E8C  
18055 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
18056 \DeclareTextCompositeCommand{¨}{PU}{x}{\9036\215}% U+1E8D  
18057 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
18058 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
18059 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
18060 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
18061 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
18062 \DeclareTextCompositeCommand{^}{PU}{Z}{\9036\220}% U+1E90  
18063 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
18064 \DeclareTextCompositeCommand{^}{PU}{z}{\9036\221}% U+1E91  
18065 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow  
18066 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92  
18067 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow  
18068 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93  
18069 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
18070 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
18071 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
18072 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
18073 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
18074 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
18075 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
18076 \DeclareTextCompositeCommand{¨}{PU}{t}{\9036\227}% U+1E97  
18077 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
18078 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
18079 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
18080 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
18081 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent  
18082 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
18083 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow  
18084 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
18085 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow  
18086 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
18087 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow  
18088 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
18089 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow  
18090 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
18091 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
18092 \DeclareTextCompositeCommand{~}{PU}{E}{\9036\274}% U+1EBC  
18093 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
18094 \DeclareTextCompositeCommand{~}{PU}{e}{\9036\275}% U+1EBD  
18095 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow  
18096 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
18097 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow

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18098 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB
18099 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow
18100 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
18101 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow
18102 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD
18103 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow
18104 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
18105 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow
18106 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5
18107 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
18108 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2
18109 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
18110 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3
18111 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow
18112 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
18113 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow
18114 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5
18115 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
18116 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
18117 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
18118 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

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### 51.2.16 General Punctuation: U+2000 to U+206F

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18119 % U+200C ZERO WIDTH NON-JOINER; *afi61664, zerowidthnonjoiner
18120 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
18121 % U+2013 EN DASH; endash
18122 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
18123 % U+2014 EM DASH; emdash
18124 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
18125 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
18126 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
18127 %* \textbardbl -> \textdoublevertline (tipa)
18128 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
18129 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
18130 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
18131 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
18132 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
18133 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
18134 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
18135 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
18136 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
18137 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
18138 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
18139 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
18140 % U+2020 DAGGER; dagger
18141 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%* U+2020
18142 %* \textdagger -> \dag (LaTeX)
18143 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)
18144 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
18145 %* \textdaggerdbl -> \ddagger (LaTeX)
18146 %* \textdaggerdbl -> \ddag (LaTeX)
18147 % U+2022 BULLET; bullet
18148 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%* U+2022
18149 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)
18150 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%* U+2025
18151 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
18152 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026

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18153 %\* \textellipsis -> \mathellipsis  
 18154 % U+2030 PER MILLE SIGN; perthousand  
 18155 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 18156 % U+2031 PER TEN THOUSAND SIGN  
 18157 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 18158 % U+2032 PRIME; minute; \prime (MnSymbol)  
 18159 \DeclareTextCommand{\textprime}{PU}{\9040\062}%\* U+2032  
 18160 % U+2033 DOUBLE PRIME; \second (mathabx)  
 18161 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%\* U+2033  
 18162 % U+2034 TRIPLE PRIME; \third (mathabx)  
 18163 \DeclareTextCommand{\texttthird}{PU}{\9040\064}%\* U+2034  
 18164 % U+2035 REVERSED PRIME; \backprime (AmsS)  
 18165 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%\* U+2035  
 18166 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
     ingleft  
 18167 \DeclareTextCommand{\guilsingleft}{PU}{\9040\071}% U+2039  
 18168 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
     ingright  
 18169 \DeclareTextCommand{\guilsingright}{PU}{\9040\072}% U+203A  
 18170 % U+203B REFERENCE MARK; referencemark  
 18171 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 18172 % U+203D INTERROBANG  
 18173 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 18174 % U+2044 FRACTION SLASH; fraction  
 18175 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 18176 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 18177 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 18178 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 18179 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 18180 % U+2052 COMMERCIAL MINUS SIGN  
 18181 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052  
 18182 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)  
 18183 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%\* U+2056  
 18184 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)  
 18185 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%\* U+2057  
 18186 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)  
 18187 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%\* U+2058

### 51.2.17 Superscripts and Subscripts: U+2070 to U+209F

18188 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 18189 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%\* U+2070  
 18190 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I  
 18191 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%\* U+2071  
 18192 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 18193 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%\* U+2074  
 18194 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 18195 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%\* U+2075  
 18196 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 18197 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%\* U+2076  
 18198 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 18199 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%\* U+2077  
 18200 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 18201 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%\* U+2078  
 18202 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 18203 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%\* U+2079  
 18204 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 18205 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%\* U+207A

18206 % U+207B SUPERScript MINUS  
 18207 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%\* U+207B  
 18208 % U+207C SUPERScript EQUALS SIGN; equalsuperior  
 18209 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%\* U+207C  
 18210 % U+207D SUPERScript LEFT PARENTHESIS; parenleftsuperior  
 18211 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%\* U+207D  
 18212 % U+207E SUPERScript RIGHT PARENTHESIS; parenrightsuperior  
 18213 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%\* U+207E  
 18214 % U+207F SUPERScript LATIN SMALL LETTER N; nsuperior  
 18215 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%\* U+207F  
 18216 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 18217 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%\* U+2080  
 18218 % U+2081 SUBSCRIPT ONE; oneinferior  
 18219 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%\* U+2081  
 18220 % U+2082 SUBSCRIPT TWO; twoinferior  
 18221 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%\* U+2082  
 18222 % U+2083 SUBSCRIPT THREE; threeinferior  
 18223 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}%\* U+2083  
 18224 % U+2084 SUBSCRIPT FOUR; fourinferior  
 18225 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%\* U+2084  
 18226 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 18227 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%\* U+2085  
 18228 % U+2086 SUBSCRIPT SIX; sixinferior  
 18229 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%\* U+2086  
 18230 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 18231 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%\* U+2087  
 18232 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 18233 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%\* U+2088  
 18234 % U+2089 SUBSCRIPT NINE; nineinferior  
 18235 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%\* U+2089  
 18236 % U+208A SUBSCRIPT PLUS SIGN  
 18237 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%\* U+208A  
 18238 % U+208B SUBSCRIPT MINUS  
 18239 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%\* U+208B  
 18240 % U+208C SUBSCRIPT EQUALS SIGN  
 18241 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%\* U+208C  
 18242 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 18243 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%\* U+208D  
 18244 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 18245 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%\* U+208E  
 18246 % U+2090 LATIN SUBSCRIPT SMALL LETTER A  
 18247 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%\* U+2090  
 18248 % U+2091 LATIN SUBSCRIPT SMALL LETTER E  
 18249 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%\* U+2091  
 18250 % U+2092 LATIN SUBSCRIPT SMALL LETTER O  
 18251 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%\* U+2092  
 18252 % U+2093 LATIN SUBSCRIPT SMALL LETTER X  
 18253 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%\* U+2093  
 18254 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA  
 18255 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%\* U+2094  
 18256 % U+2095 LATIN SUBSCRIPT SMALL LETTER H  
 18257 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%\* U+2095  
 18258 % U+2096 LATIN SUBSCRIPT SMALL LETTER K  
 18259 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%\* U+2096  
 18260 % U+2097 LATIN SUBSCRIPT SMALL LETTER L  
 18261 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%\* U+2097  
 18262 % U+2098 LATIN SUBSCRIPT SMALL LETTER M

18263 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%\* U+2098  
 18264 % U+2099 LATIN SUBSCRIPT SMALL LETTER N  
 18265 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%\* U+2099  
 18266 % U+209A LATIN SUBSCRIPT SMALL LETTER P  
 18267 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%\* U+209A  
 18268 % U+209B LATIN SUBSCRIPT SMALL LETTER S  
 18269 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%\* U+209B  
 18270 % U+209C LATIN SUBSCRIPT SMALL LETTER T  
 18271 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%\* U+209C

### 51.2.18 Currency Symbols: U+20A0 to U+20CF

18272 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 18273 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 18274 % U+20A4 LIRA SIGN; afii08941, \*lira  
 18275 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 18276 % U+20A6 NAIRA SIGN  
 18277 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 18278 % U+20A7 PESETA SIGN; peseta  
 18279 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 18280 % U+20A9 WON SIGN; won  
 18281 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 18282 % U+20AB DONG SIGN; dong  
 18283 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 18284 % U+20AC EURO SIGN; \*Euro, euro  
 18285 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 18286 %\* \texteuro -> \EurDig (marvosym)  
 18287 %\* \texteuro -> \EURdig (marvosym)  
 18288 %\* \texteuro -> \EurHv (marvosym)  
 18289 %\* \texteuro -> \EURhv (marvosym)  
 18290 %\* \texteuro -> \EurCr (marvosym)  
 18291 %\* \texteuro -> \EURcr (marvosym)  
 18292 %\* \texteuro -> \EurTm (marvosym)  
 18293 %\* \texteuro -> \EURtm (marvosym)  
 18294 %\* \texteuro -> \Eur (marvosym)  
 18295 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)  
 18296 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%\* U+20B0  
 18297 %\* \textDeleatur -> \Denarius (marvosym)  
 18298 % U+20B1 PESO SIGN  
 18299 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 18300 % U+20B2 GUARANI SIGN  
 18301 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

### 51.2.19 Letterlike Symbols: U+2100 to U+214F

18302 % U+2103 DEGREE CELSIUS; centigrade  
 18303 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 18304 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)  
 18305 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%\* U+210F  
 18306 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)  
 18307 \DeclareTextCommand{\textIm}{PU}{\9041\021}%\* U+2111  
 18308 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)  
 18309 \DeclareTextCommand{\textell}{PU}{\9041\023}%\* U+2113  
 18310 % U+2116 NUMERO SIGN; \*afii61352, numero  
 18311 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 18312 % U+2117 SOUND RECORDING COPYRIGHT  
 18313 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 18314 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);

18315 % weierstrass; \wp (LaTeX)  
 18316 \DeclareTextCommand{\textwp}{PU}{\9041\030}%\* U+2118  
 18317 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)  
 18318 \DeclareTextCommand{\textRe}{PU}{\9041\034}%\* U+211C  
 18319 % U+211E PRESCRIPTION TAKE; prescription  
 18320 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 18321 % U+2120 SERVICE MARK  
 18322 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 18323 % U+2122 TRADE MARK SIGN; trademark  
 18324 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 18325 % U+2126 OHM SIGN; Ohm, Omega  
 18326 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 18327 % U+2127 INVERTED OHM SIGN  
 18328 \DeclareTextCommand{\textmho}{PU}{\9041\047}%\* U+2127  
 18329 %\* \textmho -> \agemO (wasysym)  
 18330 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)  
 18331 \DeclareTextCommand{\textriota}{PU}{\9041\051}%\* U+2129  
 18332 % U+212B ANGSTROM SIGN; angstrom  
 18333 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 18334 % U+212E ESTIMATED SYMBOL; estimated  
 18335 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 18336 %\* \textestimated -> \EstimatedSign (marvosym)  
 18337 %\* \textestimated -> \Ecommerce (marvosym)  
 18338 % U+2132 TURNED CAPITAL F; \Finv (AmS)  
 18339 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%\* U+2132  
 18340 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)  
 18341 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%\* U+2135  
 18342 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)  
 18343 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%\* U+2136  
 18344 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)  
 18345 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%\* U+2137  
 18346 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)  
 18347 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%\* U+2138  
 18348 % U+213B FACSIMILE SIGN; \fax (marvosym)  
 18349 \DeclareTextCommand{\textfax}{PU}{\9041\073}%\* U+213B  
 18350 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game  
 18351 \DeclareTextCommand{\textGame}{PU}{\9041\101}%\* U+2141  
 18352 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)  
 18353 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B  
 18354 %\* \textinvamp -> \bindnasrepma (stmaryrd)  
 18355 %\* \textinvamp -> \parr (cml)

### 51.2.20 Number Forms: U+2150 to U+218F

18356 % U+2150 VULGAR FRACTION ONE SEVENTH  
 18357 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150  
 18358 % U+2151 VULGAR FRACTION ONE NINTH  
 18359 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151  
 18360 % U+2152 VULGAR FRACTION ONE TENTH  
 18361 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152  
 18362 % U+2153 VULGAR FRACTION ONE THIRD; onethird  
 18363 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153  
 18364 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds  
 18365 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154  
 18366 % U+2155 VULGAR FRACTION ONE FIFTH  
 18367 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155  
 18368 % U+2156 VULGAR FRACTION TWO FIFTHS  
 18369 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156

18370 % U+2157 VULGAR FRACTION THREE FIFTHS  
 18371 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157  
 18372 % U+2158 VULGAR FRACTION FOUR FIFTHS  
 18373 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158  
 18374 % U+2159 VULGAR FRACTION ONE SIXTH  
 18375 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159  
 18376 % U+215A VULGAR FRACTION FIVE SIXTHS  
 18377 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A  
 18378 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth  
 18379 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B  
 18380 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths  
 18381 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C  
 18382 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths  
 18383 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D  
 18384 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths  
 18385 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E  
 18386 % U+2184 LATIN SMALL LETTER REVERSED C  
 18387 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184  
 18388 % U+2189 VULGAR FRACTION ZERO THIRDS  
 18389 \DeclareTextCommand{\textzer thirds}{PU}{\9041\211}% U+2189

### 51.2.21 Arrows: U+2190 to U+21FF

18390 % U+2190 LEFTWARDS ARROW; arrowleft  
 18391 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%\* U+2190  
 18392 % U+2191 UPWARDS ARROW; arrowup  
 18393 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%\* U+2191  
 18394 % U+2192 RIGHTWARDS ARROW; arrowright  
 18395 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%\* U+2192  
 18396 %\* \textrightarrow -> \MVRightArrow (marvosym)  
 18397 %\* \textrightarrow -> \MVRightarrow (marvosym)  
 18398 % U+2193 DOWNWARDS ARROW; arrowdown  
 18399 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%\* U+2193  
 18400 %\* \textdownarrow -> \MVArrowDown (marvosym)  
 18401 %\* \textdownarrow -> \Force (marvosym)  
 18402 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightarrow (LaTeX)  
 18403 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\224}%\* U+2194  
 18404 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)  
 18405 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%\* U+2195  
 18406 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)  
 18407 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%\* U+2196  
 18408 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)  
 18409 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%\* U+2197  
 18410 %\* \textnearrow -> \textglobrise (tipa)  
 18411 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)  
 18412 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%\* U+2198  
 18413 %\* \textsearrow -> \textglobfall (tipa)  
 18414 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)  
 18415 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%\* U+2199  
 18416 % U+219A LEFTWARDS ARROW WITH STROKE; \nleftarrow (AmS)  
 18417 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%\* U+219A  
 18418 % U+219B RIGHTWARDS ARROW WITH STROKE; \nrightarrow (AmS)  
 18419 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%\* U+219B  
 18420 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)  
 18421 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%\* U+219E  
 18422 % \ntwoheadleftarrow (txfonts/pxfonts)  
 18423 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%\* U+219E U+0338  
 18424 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)



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18425 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%* U+219F
18426 % U+21A0 RIGHTWARDS TWO HEADED ARROW;
18427 % \twoheadrightarrow (AmS)
18428 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0
18429 % \ntwoheadrightarrow (txfonts/pxfonts)
18430 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%* U+21A0 U+0338
18431 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
      Symbol)
18432 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
18433 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
18434 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
18435 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
18436 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
18437 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
18438 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
18439 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
18440 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
18441 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
18442 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
18443 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
18444 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
18445 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
18446 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
18447 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightarrow (AmS)
18448 \DeclareTextCommand{\textnleftrightarrow}{PU}{\9041\256}%* U+21AE
18449 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
18450 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
18451 %* \textlightning -> \Lightning (marvosym)
18452 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
18453 % \dls (mathabx)
18454 \DeclareTextCommand{\textdls}{PU}{\9041\265}%* U+21B5
18455 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
18456 % \curvearrowleft (AmS)
18457 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
18458 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
18459 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
18460 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
      barbup;
18461 % \leftharpoonup (LaTeX)
18462 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
18463 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
18464 % \leftharpoondown (LaTeX)
18465 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
18466 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
18467 % \upharpoonright (AmS)
18468 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
18469 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
18470 % \upharpoonleft (AmS)
18471 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
18472 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
      barbup
18473 % \rightharpoonup (LaTeX)
18474 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
18475 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
18476 % \rightharpoondown (LaTeX)
18477 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
18478 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;

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18479 % \downharpoonright (AmS)
18480 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
18481 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
18482 % \downharpoonleft (AmS)
18483 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
18484 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
18485 % arrowrightoverleft; \rightleftarrows (MnSymbol)
18486 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
18487 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; arrowupleftofdown;
18488 % \updownarrows (MnSymbol)
18489 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
18490 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleftoverright;
18491 % \leftrightharrows (AmS)
18492 \DeclareTextCommand{\textleftrightharrows}{PU}{\9041\306}%* U+21C6
18493 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
18494 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
18495 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
18496 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
18497 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
18498 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9
18499 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
18500 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
18501 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
18502 % \leftrightharpoons (AmS);
18503 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
18504 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
18505 % \rightleftharpoons (LaTeX, AmS)
18506 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
18507 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftdblstroke;
18508 % \nLeftarrow (AmS)
18509 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
18510 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightarrow (AmS)
18511 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
18512 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightdblstroke;
18513 % \nRightarrow (AmS)
18514 \DeclareTextCommand{\textnRightarrow}{PU}{\9041\317}%* U+21CF
18515 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
18516 % \Leftarrow (LaTeX)
18517 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
18518 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
18519 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
18520 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
18521 % \Rightarrow (LaTeX)
18522 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%* U+21D2
18523 %* \textRightarrow -> \Conclusion (marvosym)
18524 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbldown; \Downarrow (LaTeX)
18525 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
18526 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;
18527 % \Leftrightarrow (LaTeX)
18528 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
18529 %* \textLeftrightarrow -> \Equivalence (marvosym)

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18530 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)  
 18531 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%\* U+21D5  
 18532 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)  
 18533 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%\* U+21D6  
 18534 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)  
 18535 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%\* U+21D7  
 18536 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)  
 18537 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%\* U+21D8  
 18538 % U+21D9 SOUTH WEST DOUBLE ARROW; \Swarrow (MnSymbol)  
 18539 \DeclareTextCommand{\textSwarrow}{PU}{\9041\331}%\* U+21D9  
 18540 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)  
 18541 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%\* U+21DA  
 18542 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)  
 18543 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%\* U+21DB  
 18544 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)  
 18545 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%\* U+21DC  
 18546 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)  
 18547 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%\* U+21DD  
 18548 % U+21E0 LEFTWARDS DASHED ARROW; \dashrightarrow;  
 18549 % \dashleftarrow (AmS)  
 18550 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\340}%\* U+21E0  
 18551 %\* \dashrightarrow -> \dashedrightarrow (MnSymbol)  
 18552 % U+21E1 UPWARDS DASHED ARROW; \dashup; \dasheduparrow (Mn-  
 Symbol)  
 18553 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%\* U+21E1  
 18554 % U+21E2 RIGHTWARDS DASHED ARROW; \dashrightarrow;  
 \dashrightarrow (AmS)  
 18555 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%\* U+21E2  
 18556 %\* \dashrightarrow -> \dashedrightarrow (MnSymbol)  
 18557 % U+21E3 DOWNWARDS DASHED ARROW; \dashrightarrow;  
 \dashrightarrow (MnSymbol)  
 18558 \DeclareTextCommand{\textdashedrightarrow}{PU}{\9041\343}%\* U+21E3  
 18559 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)  
 18560 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%\* U+21E8  
 18561 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;  
 18562 % \downuparrows (MnSymbol)  
 18563 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%\* U+21F5  
 18564 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)  
 18565 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%\* U+21FD  
 18566 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)  
 18567 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%\* U+21FE  
 18568 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightarrowtriangle  
 (stmaryrd)  
 18569 \DeclareTextCommand{\textleftrightarrowtriangle}{PU}{\9041\377}%\* U+21FF

### 51.2.22 Mathematical Operators: U+2200 to U+22FF

18570 % U+2200 FOR ALL; forall; \forall (LaTeX)  
 18571 \DeclareTextCommand{\textforall}{PU}{\9042\000}%\* U+2200  
 18572 % U+2201 COMPLEMENT; \complement (AmS)  
 18573 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%\* U+2201  
 18574 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)  
 18575 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%\* U+2202  
 18576 % U+2203 THERE EXISTS; existential; \exists (LaTeX)  
 18577 \DeclareTextCommand{\textexists}{PU}{\9042\003}%\* U+2203  
 18578 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)  
 18579 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%\* U+2204  
 18580 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)

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18581 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
18582 %* \textemptyset -> \varnothing (AmS)
18583 % U+2206 INCREMENT; increment, Deta; \triangle (LaTeX)
18584 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
18585 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
18586 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
18587 % U+2208 ELEMENT OF; element; \in (LaTeX)
18588 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
18589 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
18590 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209
18591 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
18592 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
18593 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
18594 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
18595 %* \textni -> \owns (mathabx)
18596 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
18597 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
18598 %* \textnotowner -> \notni (txfonts/pxfonts)
18599 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
18600 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
18601 % U+220F N-ARY PRODUCT; \prod (LaTeX)
18602 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
18603 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
18604 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
18605 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
18606 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
18607 % U+2212 MINUS SIGN; minus
18608 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
18609 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
18610 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
18611 % U+2214 DOT PLUS; \dotplus (AmS)
18612 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
18613 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)
18614 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%* U+2215
18615 % \DividesNot (marvosym)
18616 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%* U+2215 U+20D2
18617 % U+2216 SET MINUS; \setminus (LaTeX)
18618 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
18619 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
18620 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
18621 % U+2218 RING OPERATOR; \circ (LaTeX)
18622 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
18623 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
18624 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
18625 % U+221A SQUARE ROOT; radical
18626 \DeclareTextCommand{\textsqrt}{PU}{\9042\032}%* U+221A
18627 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
18628 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
18629 %* \textpropto -> \varprop (wasysym)
18630 % U+221E INFINITY; infinity; \infty (LaTeX)
18631 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
18632 % U+2220 ANGLE; angle; \angle (LaTeX)
18633 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
18634 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
18635 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
18636 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
18637 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222

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18638 %* \textsphericalangle -> \varangle (wasysym)
18639 %* \textsphericalangle -> \Anglesign (marvosym)
18640 %* \textsphericalangle -> \AngleSign (marvosym)
18641 % U+2223 DIVIDES; divides; \mid (LaTeX)
18642 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
18643 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
18644 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224
18645 %* \textnmid -> \notdivides (mathabx)
18646 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
18647 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
18648 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
18649 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
18650 %* \textnparallel -> nUpdownline (MnSymbol)
18651 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
18652 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
18653 % \owedge (stmaryrd)
18654 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%* U+2227 U+20DD
18655 %* \textowedge -> \varowedge (stmaryrd)
18656 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
18657 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
18658 % \ovee (stmaryrd)
18659 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%* U+2228 U+20DD
18660 %* \textovee -> \varovee (stmaryrd)
18661 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
18662 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
18663 % U+222A UNION; union; \cup (LaTeX)
18664 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
18665 % U+222B INTEGRAL; integral; \int (LaTeX)
18666 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
18667 %* \textint -> \varint (wasysym)
18668 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
18669 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
18670 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
18671 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
18672 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
18673 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
18674 %* \textoint -> \varoint (wasysym)
18675 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
18676 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
18677 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
18678 % \ointclockwise (txfonts/pxfonts)
18679 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
18680 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrclockwise (tx-
      fonts/pxfonts)
18681 \DeclareTextCommand{\textointctrclockwise}{PU}{\9042\063}%* U+2233
18682 % U+2234 THEREFORE; therefore; \therefore (AmS)
18683 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
18684 %* \texttherefore -> uptherefore (MnSymbol)
18685 % U+2235 BECAUSE; because; \because (AmS)
18686 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
18687 %* \textbecause -> \downtherefore (MnSymbol)
18688 % U+2236 RATIO; \vdotdot (MnSymbol)
18689 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
18690 % U+2237 PROPORTION; \squaredots (MnSymbol)
18691 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
18692 % U+2238 DOT MINUS; \dotminus (MnSymbol)
18693 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238

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18694 %\* \textdotminus -> \textdotdiv (mathabx)  
 18695 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)  
 18696 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%\* U+2239  
 18697 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)  
 18698 \DeclareTextCommand{\textsim}{PU}{\9042\074}%\* U+223C  
 18699 %\* \textsim -> \AC (wasysym)  
 18700 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)  
 18701 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%\* U+223D  
 18702 % \backsim (txfonts/pxfonts)  
 18703 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%\* U+223D U+0338  
 18704 % U+2240 WREATH PRODUCT; \wr (LaTeX)  
 18705 \DeclareTextCommand{\textwr}{PU}{\9042\100}%\* U+2240  
 18706 %\* \textwr -> \wreath (MnSymbol)  
 18707 % U+2241 NOT TILDE; \nsim (AmS)  
 18708 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%\* U+2241  
 18709 % U+2242 MINUS TILDE; \eqsim (MnSymbol)  
 18710 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%\* U+2242  
 18711 % \neqsim (MnSymbol)  
 18712 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%\* U+2242 U+0338  
 18713 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (LaTeX)  
 18714 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%\* U+2243  
 18715 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)  
 18716 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%\* U+2244  
 18717 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)  
 18718 \DeclareTextCommand{\textcong}{PU}{\9042\105}%\* U+2245  
 18719 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;  
 18720 % \ncong (AmS)  
 18721 \DeclareTextCommand{\textncong}{PU}{\9042\107}%\* U+2247  
 18722 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)  
 18723 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%\* U+2248  
 18724 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts)  
 18725 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%\* U+2249  
 18726 %\* \textnapprox -> \nthickapprox (txfonts/pxfonts)  
 18727 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)  
 18728 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%\* U+224A  
 18729 % \napproxeq (txfonts/pxfonts)  
 18730 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%\* U+224A U+0338  
 18731 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)  
 18732 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%\* U+224B  
 18733 %\* \texttriplesim -> \VHF (wasysym)  
 18734 % \ntriplesim (MnSymbol)  
 18735 \DeclareTextCommand{\textntriplesim}{PU}{\9042\113\83\070}%\* U+224B U+0338  
 18736 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)  
 18737 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%\* U+224C  
 18738 % \backcong (MnSymbol)  
 18739 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%\* U+224C U+0338  
 18740 % U+224D EQUIVALENT TO; \asymp (LaTeX)  
 18741 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%\* U+224D  
 18742 % \nasymp (txfonts/pxfonts)  
 18743 \DeclareTextCommand{\textnasymp}{PU}{\9042\115\83\070}%\* U+224D U+0338  
 18744 %\* \textnasymp -> \notasymp (mathabx)  
 18745 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)  
 18746 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%\* U+224E  
 18747 % \nBumpeq (txfonts/pxfonts)  
 18748 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%\* U+224E U+0338  
 18749 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)

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18750 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F
18751 % \nbumpeq (txfonts/pxfonts)
18752 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%* U+224F U+0338
18753 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
18754 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%* U+2250
18755 % \ndoteq (MnSymbol)
18756 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%* U+2250 U+0338
18757 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;
18758 % \doteqdot (AmS)
18759 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
18760 %* \textdoteqdot -> \Doteq (MnSymbol)
18761 % \nDoteq (MnSymbol)
18762 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%* U+2251 U+0338
18763 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
qualorimage;
18764 % \fallingdotseq (AmS)
18765 \DeclareTextCommand{\textfallingdotseq}{PU}{\9042\122}%* U+2252
18766 % \nfallingdotseq (MnSymbol)
18767 \DeclareTextCommand{\textnfallingdotseq}{PU}{\9042\122\83\070}%* U+2252 U+0338
18768 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapproxi-
matelyequal;
18769 % \risingdotseq (AmS)
18770 \DeclareTextCommand{\textrisingdotseq}{PU}{\9042\123}%* U+2253
18771 % \nrisingdotseq (MnSymbol)
18772 \DeclareTextCommand{\textnrisingdotseq}{PU}{\9042\123\83\070}%* U+2253 U+0338
18773 % U+2254 COLON EQUALS; \colonequals (colonequals)
18774 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254
18775 % U+2255 EQUALS COLON; \equalscolon (colonequals)
18776 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
18777 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
18778 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
18779 % \neqcirc (MnSymbol)
18780 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%* U+2256 U+0338
18781 % U+2257 RING EQUAL TO; \circeq (AmS)
18782 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
18783 % \ncirceq (MnSymbol)
18784 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%* U+2257 U+0338
18785 % U+2259 ESTIMATES; \hateq (MnSymbol)
18786 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
18787 %* \texthateq -> \corresponds (mathabx)
18788 %* \texthateq -> \Corresponds (marvosym)
18789 % \nhateq (MnSymbol)
18790 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%* U+2259 U+0338
18791 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
18792 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
18793 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)
18794 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
18795 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
18796 %* \textneq -> \nequal (MnSymbol)
18797 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
18798 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
18799 %* \textequiv -> \Congruent (marvosym)
18800 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)
18801 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
18802 %* \textnequiv -> \NotCongruent (marvosym)
18803 %* \textnequiv -> \notequiv (mathabx)
18804 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)

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18805 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
18806 \DeclareTextCommand{\textle}{PU}{\9042\144}%* U+2264
18807 %* \textleq -> \LessOrEqual (marvosym)
18808 % U+2265 GREATER-THAN OR EQUAL TO; greaterequal;
18809 % \ge (LaTeX), \geq (LaTeX)
18810 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
18811 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
18812 %* \textgeq -> \LargerOrEqual (marvosym)
18813 % U+2266 LESS-THAN OVER EQUAL TO; lessoverequal; \leqq (AmS)
18814 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
18815 % \nleqq (txfonts/pxfonts)
18816 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%* U+2266 U+0338
18817 % U+2267 GREATER-THAN OVER EQUAL TO; greateroverequal; \geqq (AmS)
18818 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
18819 % \ngeqq (txfonts/pxfonts)
18820 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%* U+2267 U+0338
18821 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
18822 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
18823 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18824 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18825 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18826 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
18827 % \nll (txfonts/pxfonts)
18828 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%* U+226A U+0338
18829 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18830 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18831 % \ngg (txfonts/pxfonts)
18832 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%* U+226B U+0338
18833 % U+226C BETWEEN; \between (AmS)
18834 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18835 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18836 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18837 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18838 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18839 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18840 % \nleq (AmS)
18841 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18842 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)
18843 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18844 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lesssim (AmS)
18845 \DeclareTextCommand{\textlesssim}{PU}{\9042\162}%* U+2272
18846 %* \textlessim -> \apprle (wasysym)
18847 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18848 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18849 %* \textgtrsim -> \apprge (wasysym)
18850 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlesssim (txfonts/pxfonts)
18851 \DeclareTextCommand{\textnlesssim}{PU}{\9042\164}%* U+2274
18852 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (txfonts/pxfonts)
18853 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%* U+2275
18854 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
18855 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
18856 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)
18857 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277

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18858 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (tx-
      fonts/pxfonts)
18859 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%* U+2278
18860 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (tx-
      fonts/pxfonts)
18861 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%* U+2279
18862 % U+227A PRECEDES; precedes; \prec (LaTeX)
18863 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
18864 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
18865 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
18866 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
18867 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C
18868 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)
18869 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%* U+227D
18870 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)
18871 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%* U+227E
18872 % \nprecsim (txfonts/pxfonts)
18873 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%* U+227E U+0338
18874 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)
18875 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%* U+227F
18876 % \nsuccsim (txfonts/pxfonts)
18877 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%* U+227F U+0338
18878 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)
18879 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%* U+2280
18880 % U+2281 DOES NOT SUCCEED; notsucceeds; \nsucc (AmS)
18881 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%* U+2281
18882 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)
18883 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%* U+2282
18884 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)
18885 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%* U+2283
18886 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)
18887 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284
18888 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)
18889 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
18890 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)
18891 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%* U+2286
18892 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)
18893 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%* U+2287
18894 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)
18895 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%* U+2288
18896 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)
18897 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%* U+2289
18898 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subset-
      neq (AmS)
18899 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
18900 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supset-
      neq (AmS)
18901 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
18902 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)
18903 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
18904 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
18905 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
18906 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
18907 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
18908 % \nsqsubset (txfonts/pxfonts)
18909 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%* U+228F U+0338
18910 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)

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18911 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
18912 % \nsqsupset (txfonts/pxfonts)
18913 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%* U+2290 U+0338
18914 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseteq (LaTeX)
18915 \DeclareTextCommand{\textsqsubseteq}{PU}{\9042\221}%* U+2291
18916 % \nsqsubseteq (txfonts/pxfonts)
18917 \DeclareTextCommand{\textnsqsubseteq}{PU}{\9042\221\83\070}%* U+2291 U+0338
18918 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)
18919 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%* U+2292
18920 % \nsqsupseteq (txfonts/pxfonts)
18921 \DeclareTextCommand{\textnsqsupseteq}{PU}{\9042\222\83\070}%* U+2292 U+0338
18922 % U+2293 SQUARE CAP; \sqcap (LaTeX)
18923 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18924 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18925 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18926 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18927 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18928 %* \textoplus -> \varoplus (stmaryrd)
18929 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18930 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18931 %* \textominus -> \varominus (stmaryrd)
18932 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18933 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18934 %* \textotimes -> \varotimes (stmaryrd)
18935 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18936 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18937 %* \textoslash -> \varoslash (stmaryrd)
18938 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18939 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18940 %* \textodot -> \varodot (stmaryrd)
18941 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18942 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18943 %* \textcircledcirc -> \ocirc (mathabx)
18944 %* \textcircledcirc -> \varocircle (stmaryrd)
18945 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18946 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18947 %* \textcircledast -> \varoast (stmaryrd)
18948 %* \textcircledast -> \oasterisk (mathabx)
18949 % U+229D CIRCLED DASH; \circleddash (AmS)
18950 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18951 % U+229E SQUARED PLUS; \boxplus (AmS)
18952 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18953 % U+229F SQUARED MINUS; \boxminus (AmS)
18954 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18955 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18956 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
18957 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18958 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18959 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18960 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18961 %* \textvdash -> \rightvdash (MnSymbol)
18962 % U+22A3 LEFT TACK; tackleft; \dashv (LaTeX)
18963 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18964 %* \textdashv -> \leftvdash (MnSymbol)
18965 % \ndashv (mathabx)
18966 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
18967 %* \textndashv -> \nleftvdash (MnSymbol)

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18968 % U+22A4 DOWN TACK ( $=top$ ); tackdown;  $\top$  (LaTeX)  
 18969 \DeclareTextCommand{\texttop}{PU}{\9042\244}%\* U+22A4  
 18970 %\* \texttop -> \downvdash (MnSymbol)  
 18971 % \downvdash (MnSymbol)  
 18972 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%\* U+22A4 U+0338  
 18973 % U+22A5 UP TACK ( $=base, bottom$ );  $\bot$  (LaTeX)  
 18974 \DeclareTextCommand{\textbot}{PU}{\9042\245}%\* U+22A5  
 18975 %\* \textbot -> \upvdash (MnSymbol)  
 18976 % \upvdash (MnSymbol)  
 18977 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%\* U+22A5 U+0338  
 18978 %\* \textnupvdash -> \nperp (MnSymbol)  
 18979 % U+22A8 TRUE;  $\vdash$  (AmS)  
 18980 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%\* U+22A8  
 18981 %\* \textvDash -> \models (LaTeX)  
 18982 %\* \textvDash -> \rightmodels (MnSymbol)  
 18983 % U+22A9 FORCES;  $\Vdash$  (AmS)  
 18984 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%\* U+22A9  
 18985 %\* \textVdash -> \rightVdash (MnSymbol)  
 18986 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE;  $\Vvdash$  (AmS)  
 18987 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%\* U+22AA  
 18988 % \nVdash (mathabx)  
 18989 \DeclareTextCommand{\textnVdash}{PU}{\9042\252\83\070}%\* U+22AA U+0338  
 18990 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;  
 18991 % \VDash (mathabx)  
 18992 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%\* U+22AB  
 18993 %\* \textVDash -> \rightModels (MnSymbol)  
 18994 % U+22AC DOES NOT PROVE;  $\nvdash$  (AmS)  
 18995 \DeclareTextCommand{\textnvdash}{PU}{\9042\254}%\* U+22AC  
 18996 %\* \textnvdash -> \nrightvdash (MnSymbol)  
 18997 % U+22AD NOT TRUE;  $\nvDash$  (AmS)  
 18998 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%\* U+22AD  
 18999 %\* \textnvDash -> \nrightmodels (MnSymbol)  
 19000 %\* \textnvDash -> \nmodels (MnSymbol)  
 19001 % U+22AE DOES NOT FORCE;  $\nVdash$  (txfonts/pxfonts)  
 19002 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%\* U+22AE  
 19003 %\* \textnVdash -> \nrightVdash (MnSymbol)  
 19004 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-  
 STILE;  $\nVDash$  (AmS)  
 19005 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%\* U+22AF  
 19006 %\* \textnVDash -> \nrightModels (MnSymbol)  
 19007 % U+22B2 NORMAL SUBGROUP OF;  $\lhd$  (latexsym, ...)  
 19008 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%\* U+22B2  
 19009 %\* \textlhd -> \lessclosed (MnSymbol)  
 19010 % U+22B3 CONTAINS AS NORMAL SUBGROUP;  $\rhd$  (latexsym, ...)  
 19011 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%\* U+22B3  
 19012 %\* \textrhd -> \gtrclosed (MnSymbol)  
 19013 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO;  $\unlhd$  (latexsym, ...)  
 19014 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%\* U+22B4  
 19015 %\* \textunlhd -> \leqclosed (MnSymbol)  
 19016 %\* \textunlhd -> \trianglelefteq (MnSymbol)  
 19017 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO;  $\unrhd$  (la-  
 texsym, ...)  
 19018 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%\* U+22B5  
 19019 %\* \textunrhd -> \geqclosed (MnSymbol)  
 19020 %\* \textunrhd -> \trianglerighteq (MnSymbol)  
 19021 % U+22B6 ORIGINAL OF;  $\multimap$  (txfonts/pxfonts)  
 19022 \DeclareTextCommand{\textmultimap}{PU}{\9042\266}%\* U+22B6

19023 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)  
 19024 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%\* U+22B7  
 19025 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)  
 19026 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%\* U+22B8  
 19027 % U+22BB XOR; \veebar (AmS)  
 19028 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%\* U+22BB  
 19029 % U+22BC NAND; \barwedge (mathabx)  
 19030 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%\* U+22BC  
 19031 % U+22C6 STAR OPERATOR; \star (LaTeX)  
 19032 \DeclareTextCommand{\textstar}{PU}{\9042\306}%\* U+22C6  
 19033 % U+22C7 DIVISION TIMES; \divideontimes (AmS)  
 19034 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%\* U+22C7  
 19035 % U+22C8 BOWTIE; \bowtie (LaTeX)  
 19036 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%\* U+22C8  
 19037 %\* \textbowtie -> \Bowtie (wasysym)  
 19038 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)  
 19039 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%\* U+22C9  
 19040 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;  
 19041 % \rtimes (AmS)  
 19042 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%\* U+22CA  
 19043 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)  
 19044 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%\* U+22CB  
 19045 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)  
 19046 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%\* U+22CC  
 19047 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)  
 19048 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%\* U+22CD  
 19049 % \nbacksimeq (txfonts/pxfonts)  
 19050 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%\* U+22CD U+0338  
 19051 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)  
 19052 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%\* U+22CE  
 19053 %\* \textcurlyvee -> \varcurlyvee (stmaryrd)  
 19054 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)  
 19055 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%\* U+22CF  
 19056 %\* \textcurlywedge -> \varcurlywedge (stmaryrd)  
 19057 % U+22D0 DOUBLE SUBSET; \Subset (AmS)  
 19058 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%\* U+22D0  
 19059 % \nSubset (txfonts/pxfonts)  
 19060 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%\* U+22D0 U+0338  
 19061 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)  
 19062 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%\* U+22D1  
 19063 % \nSupset (txfonts/pxfonts)  
 19064 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%\* U+22D1 U+0338  
 19065 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)  
 19066 \DeclareTextCommand{\textCap}{PU}{\9042\322}%\* U+22D2  
 19067 %\* \textCap -> \doublecap (mathabx)  
 19068 % U+22D3 DOUBLE UNION; \Cup (AmS)  
 19069 \DeclareTextCommand{\textCup}{PU}{\9042\323}%\* U+22D3  
 19070 %\* \textCup -> \doublecup (mathabx)  
 19071 % U+22D4 PITCHFORK; \pitchfork (mathabx)  
 19072 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%\* U+22D4  
 19073 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)  
 19074 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%\* U+22D6  
 19075 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)  
 19076 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%\* U+22D7  
 19077 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)  
 19078 \DeclareTextCommand{\textlll}{PU}{\9042\330}%\* U+22D8  
 19079 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)

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19080 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9
19081 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;
19082 % \lesseqgtr (AmS)
19083 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA
19084 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterequalorless;
19085 % \gtreqless (AmS)
19086 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%* U+22DB
19087 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
19088 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
19089 % \ncurlyeqprec (mathabx)
19090 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%* U+22DE U+0338
19091 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)
19092 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
19093 % \ncurlyeqsucc (mathabx)
19094 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%* U+22DF U+0338
19095 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
19096 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
19097 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
19098 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
19099 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-
    fonts/pxfonts)
19100 \DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%* U+22E2
19101 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-
    fonts/pxfonts)
19102 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
19103 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
19104 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
19105 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
19106 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
    abx)
19107 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
19108 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
19109 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
19110 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
19111 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
19112 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
19113 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precnsim (AmS)
19114 \DeclareTextCommand{\textprecnsim}{PU}{\9042\350}%* U+22E8
19115 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succnsim (AmS)
19116 \DeclareTextCommand{\textsuccnsim}{PU}{\9042\351}%* U+22E9
19117 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
19118 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
19119 %* \textntriangleleft -> \nlessclosed (MnSymbol)
19120 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriang-
    leright (AmS)
19121 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB
19122 %* \textntriangleright -> \ngtrclosed (MnSymbol)
19123 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
19124 % \ntrianglelefteq (AmS)
19125 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%* U+22EC
19126 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
19127 % \ntrianglerighteq (AmS)
19128 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%* U+22ED
19129 %* \textntrianglerighteq -> \textngeqclosed
19130 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)
19131 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%* U+22EE
19132 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)

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19133 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%* U+22EF
19134 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)
19135 \DeclareTextCommand{\textudots}{PU}{\9042\360}%* U+22F0
19136 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)
19137 \DeclareTextCommand{\textddots}{PU}{\9042\361}%* U+22F1
19138 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)
19139 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%* U+22F6

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### 51.2.23 Miscellaneous Technical: U+2300 to U+23FF

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19140 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)
19141 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%* U+2300
19142 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)
19143 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%* U+2310
19144 % U+2311 SQUARE LOZENGE; \wasylozenge (wasysym)
19145 \DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}%* U+2311
19146 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)
19147 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%* U+2319
19148 % U+231A WATCH; \clock (wasysym)
19149 \DeclareTextCommand{\textclock}{PU}{\9043\032}%* U+231A
19150 %* \textclock -> \Clocklogo (marvosym)
19151 %* \textclock -> \ClockLogo (marvosym)
19152 % U+231C TOP LEFT CORNER; \ulcorner (AmS)
19153 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%* U+231C
19154 % U+231D TOP RIGHT CORNER; \urcorner (AmS)
19155 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%* U+231D
19156 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)
19157 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%* U+231E
19158 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)
19159 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%* U+231F
19160 % U+2322 FROWN; \frown (LaTeX)
19161 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%* U+2322
19162 % U+2323 SMILE; \smile (LaTeX)
19163 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%* U+2323
19164 % U+2328 KEYBOARD; \Keyboard (marvosym)
19165 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%* U+2328
19166 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \angle (LaTeX)
19167 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
19168 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \angle (LaTeX)
19169 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%* U+232A
19170 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
19171 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
19172 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (mar-
      vosym)
19173 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%* U+233C
19174 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)
19175 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}% U+233D
19176 %* \textstmaryrdbaro -> \baro (stmaryrd)
19177 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
19178 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
19179 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
19180 % \notbackslash (wasysym)
19181 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340
19182 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxback-
      slash (mathabx)
19183 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%* U+2342
19184 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;
19185 % \APLleftarrowbox (wasysym)

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19186 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%\* U+2347  
 19187 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;  
 19188 % \APLrightrightarrowbox (wasysym)  
 19189 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%\* U+2348  
 19190 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)  
 19191 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%\* U+2350  
 19192 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;  
 19193 % \APLdownarrowbox (wasysym)  
 19194 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%\* U+2357  
 19195 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;  
 19196 % \APLinput (wasysym)  
 19197 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%\* U+235E  
 19198 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)  
 19199 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%\* U+2370  
 19200 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)  
 19201 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%\* U+2393  
 19202 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)  
 19203 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%\* U+2394  
 19204 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)  
 19205 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%\* U+2395  
 19206 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;  
 19207 % \ForwardToIndex (marvosym)  
 19208 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%\* U+23ED  
 19209 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;  
 19210 % \RewindToIndex (marvosym)  
 19211 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%\* U+23EE

#### 51.2.24 Control Pictures: U+2400 to U+243F

19212 % U+2422 BLANK SYMBOL  
 19213 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 19214 % U+2423 OPEN BOX; blank  
 19215 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

#### 51.2.25 Optical Character Recognition: U+2440 to U+245F

19216 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)  
 19217 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%\* U+244A  
 19218 %\* \textbbslash -> \varparallelinv (txfonts/pxfonts)

#### 51.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

19219 % U+2460 CIRCLED DIGIT ONE; onecircle  
 19220 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 19221 % U+2461 CIRCLED DIGIT TWO; twocircle  
 19222 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 19223 % U+2462 CIRCLED DIGIT THREE; threecircle  
 19224 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
 19225 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
 19226 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
 19227 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
 19228 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
 19229 % U+2465 CIRCLED DIGIT SIX; sixcircle  
 19230 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
 19231 % U+2466 CIRCLED DIGIT SEVEN; sevenscircle  
 19232 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
 19233 % U+2467 CIRCLED DIGIT EIGHT; eightcircle

19234 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
 19235 % U+2468 CIRCLED DIGIT NINE; ninecircle  
 19236 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
 19237 % U+2469 CIRCLED NUMBER TEN; tencircle  
 19238 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
 19239 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
 19240 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
 19241 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
 19242 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
 19243 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
 19244 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
 19245 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
 19246 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
 19247 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
 19248 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
 19249 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
 19250 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
 19251 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
 19252 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
 19253 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
 19254 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
 19255 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
 19256 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
 19257 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
 19258 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
 19259 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
 19260 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
 19261 % \CircledA (marvosym)  
 19262 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%\* U+24B6  
 19263 %\* \textCircledA -> \CleaningA  
 19264 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
 19265 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
 19266 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
 19267 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
 19268 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
 19269 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
 19270 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
 19271 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
 19272 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
 19273 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
 19274 % \CleaningF (marvosym)  
 19275 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%\* U+24BB  
 19276 % \CleaningFF (marvosym)  
 19277 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%\* U+24BB U+0332  
 19278 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
 19279 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
 19280 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
 19281 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
 19282 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
 19283 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
 19284 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
 19285 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
 19286 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
 19287 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
 19288 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
 19289 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
 19290 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle



19291 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
 19292 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
 19293 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
 19294 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
 19295 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
 19296 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
 19297 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
 19298 % \CleaningP (marvosym)  
 19299 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%\* U+24C5  
 19300 % \CleaningPP (marvosym)  
 19301 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%\* U+24C5 U+0332  
 19302 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
 19303 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
 19304 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
 19305 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
 19306 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
 19307 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
 19308 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
 19309 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
 19310 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
 19311 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
 19312 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 19313 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
 19314 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 19315 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 19316 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 19317 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 19318 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 19319 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 19320 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 19321 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 19322 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 19323 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 19324 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 19325 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 19326 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 19327 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 19328 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 19329 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 19330 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 19331 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 19332 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 19333 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 19334 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 19335 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 19336 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 19337 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 19338 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 19339 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 19340 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 19341 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 19342 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 19343 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 19344 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 19345 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 19346 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 19347 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC

19348 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 19349 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 19350 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 19351 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 19352 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 19353 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 19354 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 19355 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 19356 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 19357 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 19358 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 19359 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 19360 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 19361 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 19362 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 19363 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 19364 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 19365 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 19366 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 19367 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 19368 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 19369 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 19370 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 19371 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 19372 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 19373 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 19374 % U+24EA CIRCLED DIGIT ZERO  
 19375 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

### 51.2.27 Box Drawing: U+2500 to 257F

19376 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-  
 Line (marvosym)  
 19377 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%\* U+2504  
 19378 %\* \textCuttingLine -> \Kutline (marvosym)  
 19379 %\* \textCuttingLine -> \CutLine (marvosym)  
 19380 %\* \textCuttingLine -> \Cutline (marvosym)

### 51.2.28 Geometric Shapes: U+25A0 to U+25FF

19381 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)  
 19382 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%\* U+25B2  
 19383 %\* \textUParrow -> \MoveUp (marvosym)  
 19384 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;  
 19385 % \bigtriangleup (LaTeX)  
 19386 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%\* U+25B3  
 19387 %\* \textbigtriangleup -> \APLup (wasysym)  
 19388 %\* \textbigtriangleup -> \Bleech (marvosym)  
 19389 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)  
 19390 \DeclareTextCommand{\textForward}{PU}{\9045\266}%\* U+25B6  
 19391 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-  
 tion);  
 19392 % \whiterightpointingtriangle; \triangleright (LaTeX)  
 19393 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%\* U+25B7  
 19394 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)  
 19395 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%\* U+25BA  
 19396 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)  
 19397 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%\* U+25BC  
 19398 %\* \textDOWNarrow -> \MoveDown (marvosym)

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19399 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-
      angle;
19400 % \bigtriangledown (LaTeX)
19401 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
19402 %* \textbigtriangledown -> \APLdown (wasysym)
19403 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
19404 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0
19405 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
      striction);
19406 % whiteleftpointingtriangle; \triangleleft (LaTeX)
19407 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
19408 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)
19409 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
19410 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
19411 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
19412 %* \textdiamond -> \Diamond (wasysym)
19413 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
19414 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
19415 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)
19416 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
19417 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
19418 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
19419 % U+25E6 WHITE BULLET; *openbullet, whitebullet
19420 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
19421 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
19422 % \boxbar (stmaryrd)
19423 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
19424 % U+25EF LARGE CIRCLE; largecircle
19425 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
19426 %* \textbigcircle -> \varbigcirc (stmaryrd)
19427 %

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### 51.2.29 Miscellaneous Symbols: U+2600 to U+26FF

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19428 % U+2601 CLOUD; \Cloud (ifsym)
19429 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
19430 % U+2605 BLACK STAR; \FiveStar (bding)
19431 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
19432 % U+2606 WHITE STAR; \FiveStarOpen (bding)
19433 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
19434 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bding)
19435 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
19436 %* \textPhone -> \Telefon (marvosym)
19437 % U+2610 BALLOT BOX; \boxempty (stmaryrd)
19438 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
19439 %* \textboxempty -> \Box (wasysym)
19440 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
19441 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
19442 %* \textCheckedbox -> \CheckedBox (marvosym)
19443 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
19444 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612
19445 %* \textCrossedbox -> \XBox (wasysym)
19446 %* \textCrossedbox -> \CrossedBox (marvosym)
19447 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)
19448 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2615
19449 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bding)
19450 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%* U+261A
19451 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bding)

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19452 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%\* U+261B  
19453 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bding)  
19454 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%\* U+261C  
19455 %\* \textHandLeft -> \rightpointleft (fourier)  
19456 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bding)  
19457 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%\* U+261E  
19458 %\* \textHandRight -> \leftpointright (fourier)  
19459 %\* \textHandRight -> \PointingHand (marvosym)  
19460 %\* \textHandRight -> \Pointinghand (marvosym)  
19461 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)  
19462 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%\* U+2622  
19463 %\* \textRadioactivity -> \Radiation (ifsym)  
19464 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)  
19465 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%\* U+2623  
19466 % U+2625 ANKH; \Ankh (marvosym)  
19467 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%\* U+2625  
19468 % U+262F YIN YANG; \YinYang (marvosym)  
19469 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%\* U+262F  
19470 %\* \textYinYang -> \Yinyang (marvosym)  
19471 %\* \textYinYang -> \YingYang (marvosym)  
19472 %\* \textYinYang -> \Yingyang (marvosym)  
19473 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)  
19474 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%\* U+2639  
19475 %\* \textfrownie -> \Frowny (marvosym)  
19476 % U+263A WHITE SMILING FACE; \smiley (wasysym)  
19477 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%\* U+263A  
19478 %\* \textsmiley -> \Smiley (marvosym)  
19479 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)  
19480 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%\* U+263B  
19481 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)  
19482 \DeclareTextCommand{\textsun}{PU}{\9046\074}%\* U+263C  
19483 %\* \textsun -> \Sun (marvosym)  
19484 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)  
19485 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%\* U+263D  
19486 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)  
19487 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%\* U+263E  
19488 % U+263F MERCURY; \mercury (wasysym)  
19489 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%\* U+263F  
19490 %\* \textmercury -> \Mercury (marvosym)  
19491 % U+2640 FEMALE SIGN; female; \female (wasysym)  
19492 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640  
19493 %\* \textPUfemale -> \textfemale (tipx)  
19494 %\* \textPUfemale -> \female (wasysym)  
19495 %\* \textPUfemale -> \venus (wasysym)  
19496 %\* \textPUfemale -> \Venus (marvosym)  
19497 %\* \textPUfemale -> \Female (marvosym)  
19498 % U+2641 EARTH; \earth (wasysym)  
19499 \DeclareTextCommand{\textearth}{PU}{\9046\101}%\* U+2641  
19500 %\* \textearth -> \Earth (marvosym)  
19501 % U+2642 MALE SIGN; male, mars; \male (wasysym)  
19502 \DeclareTextCommand{\textmale}{PU}{\9046\102}%\* U+2642  
19503 %\* \textmale -> \mars (wasysym)  
19504 %\* \textmale -> \Mars (marvosym)  
19505 %\* \textmale -> \Male (marvosym)  
19506 % U+2643 JUPITER; \jupiter (wasysym)  
19507 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%\* U+2643  
19508 %\* \textjupiter -> \Jupiter (marvosym)

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19509 % U+2644 SATURN; \saturn (wasysym)
19510 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%* U+2644
19511 %* \textsaturn -> \Saturn (marvosym)
19512 % U+2645 URANUS; \uranus (wasysym)
19513 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%* U+2645
19514 %* \texturanus -> \Uranus (marvosym)
19515 % U+2646 NEPTUNE; \neptune (wasysym)
19516 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%* U+2646
19517 %* \textneptune -> \Neptune (marvosym)
19518 % U+2647 PLUTO; \pluto (wasysym)
19519 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%* U+2647
19520 %* \textpluto -> \Pluto (marvosym)
19521 % U+2648 ARIES; \aries (wasysym)
19522 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
19523 %* \textaries -> \Aries (marvosym)
19524 % U+2649 TAURUS; \taurus (wasysym)
19525 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
19526 %* \texttaurus -> \Taurus (marvosym)
19527 % U+264A GEMINI; \gemini (wasysym)
19528 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
19529 %* \textgemini -> \Gemini (marvosym)
19530 % U+264B CANCER; \cancer (wasysym)
19531 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
19532 %* \textcancer -> \Cancer (marvosym)
19533 % U+264C LEO; \leo (wasysym)
19534 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
19535 %* \textleo -> \Leo (marvosym)
19536 % U+264D VIRGO; \virgo (wasysym)
19537 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
19538 %* \textvirgo -> \Virgo (marvosym)
19539 % U+264E LIBRA; \libra (wasysym)
19540 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
19541 %* \textlibra -> \Libra (marvosym)
19542 % U+264F SCORPIO; \scorpio (wasysym)
19543 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
19544 %* \textscorpio -> \Scorpio (marvosym)
19545 % U+2650 SAGITTARIUS; \sagittarius (wasysym)
19546 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
19547 %* \textsagittarius -> \Sagittarius (marvosym)
19548 % U+2651 CAPRICORN; \capricornus (wasysym)
19549 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%* U+2651
19550 %* \textcapricornus -> \Capricorn (marvosym)
19551 % U+2652 AQUARIUS; \aquarius (wasysym)
19552 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
19553 %* \textaquarius -> \Aquarius (marvosym)
19554 % U+2653 PISCES; \pisces (wasysym)
19555 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
19556 %* \textpisces -> \Pisces (marvosym)
19557 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
19558 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
19559 %* \textspadesuitblack -> \spadesuit (MnSymbol)
19560 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
19561 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
19562 %* \textheartsuitwhite -> \Heart (marvosym)
19563 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
19564 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
19565 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662

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19566 %\* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)  
19567 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)  
19568 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663  
19569 %\* \textclubsuitblack -> \clubsuit (MnSymbol)  
19570 % U+2664 WHITE SPADE SUIT; spadesuitwhite  
19571 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664  
19572 % U+2665 BLACK HEART SUIT; heartsuitblack, heart  
19573 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665  
19574 % U+2666 BLACK DIAMOND SUIT; diamond  
19575 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666  
19576 % U+2667 WHITE CLUB SUIT; clubsuitwhite  
19577 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667  
19578 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)  
19579 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%\* U+2669  
19580 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)  
19581 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
19582 %\* \textmusicalnote -> \eighthnote (wasysym, arev)  
19583 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)  
19584 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%\* U+266B  
19585 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-  
note (arev)  
19586 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%\* U+266C  
19587 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)  
19588 \DeclareTextCommand{\textflat}{PU}{\9046\155}%\* U+266D  
19589 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)  
19590 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%\* U+266E  
19591 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)  
19592 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%\* U+266F  
19593 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)  
19594 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%\* U+2672  
19595 %\* \textrecycle -> \Recycling (marvosym)  
19596 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)  
19597 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%\* U+267F  
19598 % U+2691 BLACK FLAG; \Flag (ifsym)  
19599 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%\* U+2691  
19600 %\* \textFlag -> \VarFlag (ifsym)  
19601 % U+2692 HAMMER AND PICK; \MineSign (marvosym)  
19602 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%\* U+2692  
19603 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)  
19604 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%\* U+2694  
19605 %\* \textdsmilitary -> \textxswup (fourier)  
19606 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)  
19607 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%\* U+2695  
19608 % U+2696 SCALES; \dsjuridical (dictsym)  
19609 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%\* U+2696  
19610 % U+2697 ALEMBIC; \dschemical (dictsym)  
19611 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%\* U+2697  
19612 % U+2698 FLOWER; \dsbiological (dictsym)  
19613 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%\* U+2698  
19614 % U+269A STAFF OF HERMES; \dscommercial (dictsym)  
19615 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%\* U+269A  
19616 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)  
19617 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%\* U+269D  
19618 % U+26A0 WARNING SIGN; \danger (fourier)  
19619 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%\* U+26A0  
19620 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)  
19621 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%\* U+26A2

19622 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)  
 19623 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%\* U+26A3  
 19624 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (marvosym)  
 19625 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%\* U+26A4  
 19626 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)  
 19627 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%\* U+26A5  
 19628 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)  
 19629 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%\* U+26AA  
 19630 % U+26AD MARRIAGE SYMBOL  
 19631 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 19632 % U+26AE DIVORCE SYMBOL  
 19633 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE  
 19634 % U+26B2 NEUTER; \textuncrfemale (tipx)  
 19635 \DeclareTextCommand{\textPUuncrfemale}{PU}{\9046\262}% U+26B2  
 19636 %\* \textPUuncrfemale -> \textuncrfemale (tipx)  
 19637 % U+26B9 SEXTILE; \hexstar (wasysym)  
 19638 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%\* U+26B9  
 19639 % U+26BD SOCCER BALL; \Football (marvosym)  
 19640 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD  
 19641 %\* \textSoccerBall -> \Football (marvosym)  
 19642 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)  
 19643 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%\* U+26C5  
 19644 % U+26C6 RAIN; \Rain (ifsym)  
 19645 \DeclareTextCommand{\textRain}{PU}{\9046\306}%\* U+26C6  
 19646 % U+26D4 NO ENTRY; \noway (fourier)  
 19647 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%\* U+26D4  
 19648 % U+26F0 MOUNTAIN; \Mountain (ifsym)  
 19649 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%\* U+26F0  
 19650 % U+26FA TENT; \Tent (ifsym)  
 19651 \DeclareTextCommand{\textTent}{PU}{\9046\372}%\* U+26FA

### 51.2.30 Dingbats: U+2700 to U+27BF

19652 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bbding)  
 19653 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701  
 19654 %\* \textScissorRightBrokenBottom -> \CutLeft (marvosym)  
 19655 %\* \textScissorRightBrokenBottom -> \Cutright (marvosym)  
 19656 % U+2702 BLACK SCISSORS; \ScissorRight (bbding)  
 19657 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%\* U+2702  
 19658 %\* \textScissorRight -> \RightScissors (marvosym)  
 19659 %\* \textScissorRight -> \Leftscissors (marvosym)  
 19660 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bbding)  
 19661 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%\* U+2703  
 19662 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bbding)  
 19663 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%\* U+2704  
 19664 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bbding)  
 19665 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%\* U+2706  
 19666 % U+2707 TAPE DRIVE; \Tape (bbding)  
 19667 \DeclareTextCommand{\textTape}{PU}{\9047\007}%\* U+2707  
 19668 % U+2708 AIRPLANE; \Plane (bbding)  
 19669 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%\* U+2708  
 19670 % U+2709 ENVELOPE; \Envelope (bbding),  
 19671 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%\* U+2709  
 19672 %\* \textEnvelope -> \Letter (marvosym)  
 19673 % U+270C VICTORY HAND; \Peace (bbding)  
 19674 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%\* U+270C  
 19675 % U+270D WRITING HAND; \WritingHand (marvosym)

19676 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%\* U+270D  
19677 %\* \textWritingHand -> \Writinghand (marvosym)  
19678 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bbding)  
19679 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%\* U+270E  
19680 % U+270F PENCIL; \PencilRight (bbding)  
19681 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%\* U+270F  
19682 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bbding)  
19683 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%\* U+2710  
19684 % U+2711 WHITE NIB; \NibRight (bbding)  
19685 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%\* U+2711  
19686 % U+2712 BLACK NIB; \NibSolidRight (bbding)  
19687 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%\* U+2712  
19688 % U+2713 CHECK MARK; checkmark; \Checkmark (bbding)  
19689 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%\* U+2713  
19690 %\* \textCheckmark -> \checkmark (MnSymbol)  
19691 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bbding)  
19692 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%\* U+2714  
19693 % U+2715 MULTIPLICATION X; \XSolid (bbding)  
19694 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%\* U+2715  
19695 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bbding)  
19696 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%\* U+2716  
19697 % U+2717 BALLOT X; \XSolidBrush (bbding)  
19698 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%\* U+2717  
19699 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bbding)  
19700 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%\* U+2719  
19701 % U+271A HEAVY GREEK CROSS; \Plus (bbding)  
19702 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%\* U+271A  
19703 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bbding)  
19704 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%\* U+271B  
19705 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bbding)  
19706 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%\* U+271C  
19707 % U+271D LATIN CROSS; \Cross (bbding)  
19708 \DeclareTextCommand{\textCross}{PU}{\9047\035}%\* U+271D  
19709 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bbding)  
19710 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%\* U+271E  
19711 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bbding)  
19712 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%\* U+271F  
19713 % U+2720 MALTESE CROSS; \CrossMaltese (bbding)  
19714 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%\* U+2720  
19715 % U+2721 STAR OF DAVID; \DavidStar (bbding)  
19716 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%\* U+2721  
19717 %\* \textDavidStar -> \davidstar (wasysym)  
19718 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bbding)  
19719 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%\* U+2722  
19720 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bbding)  
19721 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%\* U+2723  
19722 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bbding)  
19723 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%\* U+2724  
19724 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bbding)  
19725 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%\* U+2725  
19726 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bbding)  
19727 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%\* U+2726  
19728 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bbding)  
19729 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%\* U+2727  
19730 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bbding)  
19731 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%\* U+272A



19732 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)  
 19733 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%\* U+272B  
 19734 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)  
 19735 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%\* U+272C  
 19736 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)  
 19737 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%\* U+272D  
 19738 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)  
 19739 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%\* U+272E  
 19740 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)  
 19741 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%\* U+272F  
 19742 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)  
 19743 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%\* U+2730  
 19744 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)  
 19745 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%\* U+2731  
 19746 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)  
 19747 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%\* U+2732  
 19748 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)  
 19749 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%\* U+2734  
 19750 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)  
 19751 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%\* U+2735  
 19752 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)  
 19753 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%\* U+2736  
 19754 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)  
 19755 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%\* U+2737  
 19756 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)  
 19757 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%\* U+2738  
 19758 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)  
 19759 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%\* U+2739  
 19760 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)  
 19761 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%\* U+273A  
 19762 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)  
 19763 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%\* U+273B  
 19764 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;  
 19765 % \SixFlowerOpenCenter (bding)  
 19766 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%\* U+273C  
 19767 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)  
 19768 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%\* U+273D  
 19769 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)  
 19770 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%\* U+273E  
 19771 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)  
 19772 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%\* U+273F  
 19773 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)  
 19774 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%\* U+2740  
 19775 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)  
 19776 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%\* U+2741  
 19777 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)  
 19778 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%\* U+2742  
 19779 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)  
 19780 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%\* U+2743  
 19781 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)

19782 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%\* U+2744  
 19783 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)  
 19784 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%\* U+2745  
 19785 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)  
 19786 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%\* U+2746  
 19787 % U+2747 SPARKLE; \Sparkle (bding)  
 19788 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%\* U+2747  
 19789 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)  
 19790 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%\* U+2748  
 19791 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)  
 19792 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%\* U+2749  
 19793 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 19794 % \EightFlowerPetalRemoved (bding)  
 19795 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%\* U+274A  
 19796 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 19797 % \EightAsterisk (bding)  
 19798 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%\* U+274B  
 19799 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)  
 19800 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%\* U+274D  
 19801 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19802 % \SquareShadowBottomRight (bding)  
 19803 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%\* U+274F  
 19804 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19805 % \SquareShadowTopRight (bding)  
 19806 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%\* U+2750  
 19807 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;  
 19808 % \SquareCastShadowBottomRight (bding)  
 19809 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%\* U+2751  
 19810 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;  
 19811 % \SquareCastShadowTopRight (bding)  
 19812 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%\* U+2752  
 19813 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (b-  
 ding)  
 19814 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%\* U+2756  
 19815 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)  
 19816 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%\* U+2758  
 19817 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)  
 19818 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%\* U+2759  
 19819 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bding)  
 19820 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%\* U+275A

### 51.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

19821 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)  
 19822 \DeclareTextCommand{\textperp}{PU}{\9047\302}%\* U+27C2  
 19823 % \notperp (mathabx)  
 19824 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%\* U+27C2 U+0338  
 19825 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)  
 19826 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%\* U+27C7  
 19827 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)  
 19828 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%\* U+27D1  
 19829 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)  
 19830 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%\* U+27DC  
 19831 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 19832 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%\* U+27E6  
 19833 %\* \textlbrackdbl -> \llbracket (stmaryrd)  
 19834 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 19835 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%\* U+27E7

19836 %\* \textrbrackdbl -> \rrbracket (stmaryrd)

### 51.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

19837 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;  
19838 % \circlearrowleft (AmS)  
19839 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%\* U+27F2  
19840 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)  
19841 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%\* U+27F3  
19842 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)  
19843 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%\* U+27F5  
19844 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)  
19845 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%\* U+27F6  
19846 % U+27F7 LONG LEFT RIGHT ARROW; \longlefttrightarrow (AmS)  
19847 \DeclareTextCommand{\textlonglefttrightarrow}{PU}{\9047\367}%\* U+27F7  
19848 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)  
19849 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%\* U+27F8  
19850 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Longrightarrow (AmS)  
19851 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%\* U+27F9  
19852 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longlefttrightarrow (AmS)  
19853 \DeclareTextCommand{\textLonglefttrightarrow}{PU}{\9047\372}%\* U+27FA  
19854 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)  
19855 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%\* U+27FC  
19856 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmaps-  
from (stmaryrd)  
19857 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%\* U+27FD  
19858 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmap-  
sto (stmaryrd)  
19859 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%\* U+27FE

### 51.2.33 Supplemental Arrows-B: U+2900 to U+297F

19860 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSym-  
bol)  
19861 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%\* U+2921  
19862 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSym-  
bol)  
19863 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%\* U+2922  
19864 % U+2923 NORTH WEST ARROW WITH HOOK; \hooknwarrow (MnSymbol)  
19865 \DeclareTextCommand{\textlhooknwarrow}{PU}{\9051\043}%\* U+2923  
19866 % U+2924 NORTH EAST ARROW WITH HOOK; \rhooknearrow (MnSymbol)  
19867 \DeclareTextCommand{\textrhooknearrow}{PU}{\9051\044}%\* U+2924  
19868 % U+2925 SOUTH EAST ARROW WITH HOOK; \hooksearrow (MnSymbol)  
19869 \DeclareTextCommand{\textlhooksearrow}{PU}{\9051\045}%\* U+2925  
19870 % U+2926 SOUTH WEST ARROW WITH HOOK; \rhookswarrow (MnSymbol)  
19871 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%\* U+2926  
19872 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)  
19873 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%\* U+2933  
19874 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;  
19875 % \rcurvearrowne (MnSymbol)  
19876 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%\* U+2934  
19877 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWN-  
WARDS;  
19878 % \lcurvearrowse (MnSymbol)  
19879 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%\* U+2935  
19880 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFT-  
WARDS;  
19881 % \lcurvearrowsw (MnSymbol)  
19882 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%\* U+2936

19883 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHT-  
 WARDS;  
 19884 % \rcurvearrowse (MnSymbol)  
 19885 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%\* U+2937  
 19886 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (Mn-  
 Symbol)  
 19887 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%\* U+2938  
 19888 %\* \textlcurvearrowdown -> \RightTorque (marvosym)  
 19889 %\* \textlcurvearrowdown -> \Righttorque (marvosym)  
 19890 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;  
 19891 % \rcurvearrowdown (MnSymbol)  
 19892 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%\* U+2939  
 19893 %\* \textrcurvearrowdown -> \LeftTorque (marvosym)  
 19894 %\* \textrcurvearrowdown -> \Lefttorque (marvosym)  
 19895 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSym-  
 bol)  
 19896 \DeclareTextCommand{\textrcurvearrowleft}{PU}{\9051\072}%\* U+293A  
 19897 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;  
 19898 % \rcurvearrowright (MnSymbol)  
 19899 \DeclareTextCommand{\textrcurvearrowright}{PU}{\9051\073}%\* U+293B  
 19900 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrighthar-  
 poon (mathabx)  
 19901 \DeclareTextCommand{\textleftrightharpoon}{PU}{\9051\112}%\* U+294A  
 19902 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightlefthar-  
 poon (mathabx)  
 19903 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%\* U+294B  
 19904 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;  
 19905 % \updownharpoonrightleft (MnSymbol)  
 19906 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%\* U+294C  
 19907 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;  
 19908 % \updownharpoonleftright (MnSymbol)  
 19909 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%\* U+294D  
 19910 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS  
 19911 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)  
 19912 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%\* U+2962  
 19913 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS  
 19914 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)  
 19915 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%\* U+2963  
 19916 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-  
 WARDS HARPOON  
 19917 % WITH BARB DOWN; \rightrightarpoons (mathabx)  
 19918 \DeclareTextCommand{\textrightarpoons}{PU}{\9051\144}%\* U+2964  
 19919 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 19920 % WITH BARB RIGHT; \downdownharpoons (mathabx)  
 19921 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%\* U+2965  
 19922 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;  
 19923 % \leftbarharpoon (mathabx)  
 19924 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%\* U+296A  
 19925 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW  
 19926 % LONG DASH; \barleftharpoon (mathabx)  
 19927 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%\* U+296B  
 19928 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE  
 19929 % LONG DASH; \rightbarharpoon (mathabx)  
 19930 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%\* U+296C  
 19931 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW  
 19932 % LONG DASH; \barrightharpoon (mathabx)

19933 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%\* U+296D  
 19934 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 19935 % WITH BARB RIGHT; \updownharpoons (mathabx)  
 19936 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%\* U+296E  
 19937 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-  
 WARDS HARPOON  
 19938 % WITH BARB RIGHT; \downupharpoons (mathabx)  
 19939 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%\* U+296F  
 19940 % U+297F DOWN FISH TAIL  
 19941 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%\* U+297F U+0336

### 51.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

19942 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \lparenthesis (stmaryrd)  
 19943 \DeclareTextCommand{\textllparenthesis}{PU}{\9051\207}%\* U+2987  
 19944 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)  
 19945 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%\* U+2988  
 19946 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)  
 19947 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%\* U+29B0  
 19948 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)  
 19949 \DeclareTextCommand{\textobar}{PU}{\9051\266}%\* U+29B6  
 19950 %\* \textobar -> \textvarobar (stmaryrd)  
 19951 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)  
 19952 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%\* U+29B8  
 19953 %\* \textobslash -> \circledbslash (txfonts/pxfonts)  
 19954 %\* \textobslash -> \obackslash (mathabx)  
 19955 %\* \textobslash -> \varobslash (stmaryrd)  
 19956 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF  
 19957 % DIVIDED BY VERTICAL BAR; \obot (mathabx)  
 19958 \DeclareTextCommand{\textobot}{PU}{\9051\272}%\* U+29BA  
 19959 %\* \textobot -> \odplus (ulsy)  
 19960 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (mar-  
 vosym)  
 19961 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%\* U+29BB  
 19962 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)  
 19963 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%\* U+29C0  
 19964 %\* \textolessthan -> \varolessthan (stmaryrd)  
 19965 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)  
 19966 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%\* U+29C1  
 19967 %\* \textogreaterthan -> \varogreaterthan (stmaryrd)  
 19968 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)  
 19969 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%\* U+29C4  
 19970 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)  
 19971 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%\* U+29C5  
 19972 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)  
 19973 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%\* U+29C6  
 19974 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)  
 19975 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%\* U+29C7  
 19976 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)  
 19977 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%\* U+29C8  
 19978 % U+29D3 BLACK BOWTIE; \Valve (marvosym)  
 19979 \DeclareTextCommand{\textValve}{PU}{\9051\323}%\* U+29D3  
 19980 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)  
 19981 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%\* U+29DF  
 19982 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)  
 19983 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%\* U+29E2

### 51.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

```

19984 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)
19985 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%* U+2A04
19986 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)
19987 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%* U+2A07
19988 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)
19989 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%* U+2A08
19990 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,
19991 %   pxfonts, wasysym)
19992 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%* U+2A1D
19993 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)
19994 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%* U+2A1F
19995 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)
19996 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%* U+2A22
19997 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)
19998 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%* U+2A2A
19999 %* \textminusdot -> \divdot (mathabx)
20000 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (math-
20001 %   abx)
20001 \DeclareTextCommand{\textdotimes}{PU}{\9052\060}%* U+2A30
20002 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;
20003 %   \dtimes (mathdesign)
20004 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%* U+2A32
20005 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)
20006 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%* U+2A38
20007 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)
20008 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%* U+2A3C
20009 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)
20010 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%* U+2A4E
20011 %* \textsqdoublecap -> \doublesqcap (MnSymbol)
20012 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)
20013 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%* U+2A40
20014 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)
20015 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%* U+2A4F
20016 %* \textsqdoublecup -> \doublesqcup (MnSymbol)
20017 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)
20018 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%* U+2A55
20019 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)
20020 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%* U+2A56
20021 %* \textdoublevee -> \merge (stmaryrd)
20022 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;
20023 %   \doublebarwedge (AmS)
20024 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%* U+2A5E
20025 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;
20026 %   \veedoublebar (mahtabx)
20027 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%* U+2A63
20028 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)
20029 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%* U+2A66
20030 % \neqdot (MnSymbol)
20031 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%* U+2A66 U+0338
20032 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)
20033 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%* U+2A74
20034 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)
20035 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%* U+2A7D
20036 % \nleqslant (txfonts/pxfonts)
20037 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%* U+2A7D U+0338
20038 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)

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20039 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%\* U+2A7E  
 20040 % \ngeqslant (txfonts/pxfonts)  
 20041 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%\* U+2A7E U+0338  
 20042 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)  
 20043 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%\* U+2A85  
 20044 % \nlessapprox (txfonts/pxfonts)  
 20045 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%\* U+2A85 U+0338  
 20046 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)  
 20047 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%\* U+2A86  
 20048 % \ngtrapprox (txfonts/pxfonts)  
 20049 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%\* U+2A86 U+0338  
 20050 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)  
 20051 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%\* U+2A87  
 20052 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;  
 20053 % \gneq (AmS)  
 20054 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%\* U+2A88  
 20055 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)  
 20056 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%\* U+2A89  
 20057 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)  
 20058 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%\* U+2A8A  
 20059 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-THAN;  
 20060 % \lesseqgtr (AmS)  
 20061 \DeclareTextCommand{\textlesseqgtr}{PU}{\9052\213}%\* U+2A8B  
 20062 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-THAN;  
 20063 % \gtreqless (AmS)  
 20064 \DeclareTextCommand{\textgtreqless}{PU}{\9052\214}%\* U+2A8C  
 20065 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)  
 20066 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%\* U+2A95  
 20067 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)  
 20068 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%\* U+2A96  
 20069 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)  
 20070 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%\* U+2AA6  
 20071 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)  
 20072 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%\* U+2AA7  
 20073 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-Symbol)  
 20074 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%\* U+2AAF  
 20075 % \npreceq (txfonts/pxfonts)  
 20076 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%\* U+2AAF U+0338  
 20077 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-Symbol)  
 20078 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%\* U+2AB0  
 20079 % \nsucceq (txfonts/pxfonts)  
 20080 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%\* U+2AB0 U+0338  
 20081 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \precneq (mathabx)  
 20082 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%\* U+2AB1  
 20083 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succneq (mathabx)  
 20084 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%\* U+2AB2  
 20085 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)  
 20086 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%\* U+2AB3  
 20087 % \npreceqq (txfonts/pxfonts)  
 20088 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%\* U+2AB3 U+0338  
 20089 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)  
 20090 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%\* U+2AB4  
 20091 % \nsucceqq (txfonts/pxfonts)

20092 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%\* U+2AB4 U+0338  
 20093 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)  
 20094 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%\* U+2AB5  
 20095 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succeqq (txfonts/pxfonts)  
 20096 \DeclareTextCommand{\textsucceqq}{PU}{\9052\266}%\* U+2AB6  
 20097 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)  
 20098 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%\* U+2AB7  
 20099 % \nprecapprox (txfonts/pxfonts)  
 20100 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%\* U+2AB7 U+0338  
 20101 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)  
 20102 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%\* U+2AB8  
 20103 % \nsuccapprox (txfonts/pxfonts)  
 20104 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%\* U+2AB8 U+0338  
 20105 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-  
 prox (AmS)  
 20106 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%\* U+2AB9  
 20107 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-  
 prox (AmS)  
 20108 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%\* U+2ABA  
 20109 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)  
 20110 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%\* U+2AC5  
 20111 % \nsubseteqq (txfonts/pxfonts, mathabx)  
 20112 \DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%\* U+2AC5 U+0338  
 20113 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)  
 20114 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%\* U+2AC6  
 20115 % \nsupseteqq (mathabx)  
 20116 \DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%\* U+2AC6 U+0338  
 20117 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE  
 20118 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%\* U+2AE3  
 20119 %\* \textdashV -> \leftVdash (MnSymbol)  
 20120 % \ndashV (mathabx)  
 20121 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%\* U+2AE3 U+0338  
 20122 %\* \textndashV -> \nleftVdash (MnSymbol)  
 20123 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)  
 20124 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%\* U+2AE4  
 20125 %\* \textDashv -> \leftmodels (MnSymbol)  
 20126 % \nDashv (mathabx)  
 20127 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%\* U+2AE4 U+0338  
 20128 %\* \textnDashv -> \nleftmodels (MnSymbol)  
 20129 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;  
 20130 % \DashV (mathabx)  
 20131 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%\* U+2AE5  
 20132 %\* \textDashV -> \leftModels (MnSymbol)  
 20133 % \nDashV (mathabx)  
 20134 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%\* U+2AE5 U+0338  
 20135 %\* \textnDashV -> \nleftModels (MnSymbol)  
 20136 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)  
 20137 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%\* U+2AEA  
 20138 % \ndownmodels (MnSymbol)  
 20139 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%\* U+2AEA U+0338  
 20140 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)  
 20141 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%\* U+2AEB  
 20142 % \nupmodels (MnSymbol)  
 20143 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%\* U+2AEB U+0338  
 20144 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)  
 20145 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%\* U+2AEF  
 20146 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;



20147 % \interleave (stmaryrd)  
 20148 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%\* U+2AF4  
 20149 % U+2AFD DOUBLE SOLIDUS OPERATOR; \sslash (stmaryrd)  
 20150 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%\* U+2AFD  
 20151 %\* \textsslash -> \varparallel (txfonts\pxfonts)

### 51.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

20152 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)  
 20153 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%\* U+2B20  
 20154 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)  
 20155 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%\* U+2B21

### 51.2.37 Latin Extended-C: U+2C60 to U+2C7F

20156 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J  
 20157 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%\* U+2C7C

### 51.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

20158 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)  
 20159 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%\* U+2E13  
 20160 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)  
 20161 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18  
 20162 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)  
 20163 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%\* U+2E2D

### 51.2.39 Modifier Tone Letters: U+A700 to U+A71F

20164 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)  
 20165 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B  
 20166 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;  
 20167 % \textdownstep (tipa)  
 20168 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

### 51.2.40 Latin Extended-D: U+A720 to U+A7FF

20169 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)  
 20170 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727  
 20171 %\* \textPUheng -> \textheng (tipx)  
 20172 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)  
 20173 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C  
 20174 %\* \textPULhookfour -> \textlhookfour (tipx)  
 20175 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)  
 20176 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730  
 20177 %\* \textPUscf -> \textscf (tipx)  
 20178 % U+A735 LATIN SMALL LETTER AO; \textao lig (tipx)  
 20179 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735  
 20180 %\* \textPUaolig -> \textao lig (tipx)  
 20181 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)  
 20182 \DeclareTextCommand{\textoo}{PU}{\9247\117}%\* U+A74F  
 20183 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT  
 20184 \DeclareTextCommand{\textcircumlowlow}{PU}{\9247\210}% U+A788

### 51.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

20185 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 20186 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 20187 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 20188 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 51.2.42 Musical Symbols: U+1D100 to U+1D1FF

20189 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)

20190 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%\* U+1D13B  
 20191 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)  
 20192 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%\* U+1D13C  
 20193 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)  
 20194 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%\* U+1D13D  
 20195 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)  
 20196 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%\* U+1D13E  
 20197 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)  
 20198 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%\* U+1D13F  
 20199 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)  
 20200 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%\* U+1D140  
 20201 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)  
 20202 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%\* U+1D15D  
 20203 %\* \textfullnote -> \Ganz (harmony)  
 20204 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)  
 20205 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%\* U+1D15E  
 20206 %\* \texthalfnote -> \Halb (harmony)  
 20207 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)  
 20208 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%\* U+1D15F  
 20209 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)  
 20210 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%\* U+1D160  
 20211 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)  
 20212 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%\* U+1D161  
 20213 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)  
 20214 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%\* U+1D162

#### 51.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

20215 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)  
 20216 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%\* U+1F30D  
 20217 % U+1F319 CRESCENT MOON; \Moon (marvosym)  
 20218 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%\* U+1F319  
 20219 % U+1F468 MAN; \ManFace (marvosym)  
 20220 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%\* U+1F468  
 20221 % U+1F469 WOMAN; \WomanFace (marvosym)  
 20222 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%\* U+1F469  
 20223 %\* \textWomanFace -> \Womanface (marvosym)  
 20224 % U+1F4E0 FAX MACHINE; \Fax (marvosym)  
 20225 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%\* U+1F4E0  
 20226 %\* \textFax -> \Faxmachine (marvosym)  
 20227 % U+1F525 FIRE; \Fire (ifsym)  
 20228 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%\* U+1F525

#### 51.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

20229 % U+1F6B2 BICYCLE; \Bicycle (marvosym)  
 20230 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%\* U+1F6B2  
 20231 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)  
 20232 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%\* U+1F6B9  
 20233 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)  
 20234 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%\* U+1F6BA

#### 51.2.45 Miscellaneous

20235 \DeclareTextCommand{\SS}{PU}{SS}%  
 20236 % \textcopyleft (textcomp)  
 20237 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD  
 20238 % \ccnc (ccllicenses)  
 20239 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%\* U+0024 U+20E0  
 20240 % \ccnd (ccllicenses)

```

20241 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%* U+003D U+20DD
20242 % \ccsa (ccllicenses)
20243 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%* U+27F2 U+20DD
20244 % \Info (marvosym, china2e)
20245 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%* U+1D422 U+20DE
20246 % \CESign (marvosym)
20247 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%* U+0043 U+0045
20248 %* \textCESign -> \CEsign (marvosym)

```

### 51.2.46 Aliases

Aliases (german.sty)

```

20249 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%
20250 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%
20251 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
20252 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
20253 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}%
20254 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}%
20255 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
20256 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%

```

Aliases (math names)

```

20257 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
20258 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
20259 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
20260 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
20261 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
20262 </puenc>

```

## 51.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

20263 <*puvnenc>
20264 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
20265 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
20266 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
20267 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
20268 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
20269 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
20270 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
20271 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
20272 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
20273 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
20274 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
20275 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF
20276 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
20277 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
20278 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0
20279 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
20280 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
20281 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
20282 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
20283 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}% U+1EB1
20284 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
20285 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
20286 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5

```

20287 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD  
 20288 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}% U+1EA7  
 20289 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9  
 20290 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB  
 20291 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
 20292 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
 20293 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
 20294 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB  
 20295 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 20296 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF  
 20297 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7  
 20298 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}% U+1EC1  
 20299 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3  
 20300 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5  
 20301 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 20302 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
 20303 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 20304 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9  
 20305 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 20306 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 20307 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
 20308 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
 20309 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF  
 20310 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 20311 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1  
 20312 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9  
 20313 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}% U+1ED3  
 20314 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5  
 20315 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7  
 20316 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB  
 20317 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3  
 20318 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}% U+1EDD  
 20319 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF  
 20320 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1  
 20321 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 20322 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
 20323 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 20324 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7  
 20325 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 20326 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9  
 20327 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1  
 20328 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}% U+1EEB  
 20329 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED  
 20330 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF  
 20331 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 20332 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 20333 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 20334 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7  
 20335 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9  
 20336 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
 20337 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
 20338 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}% U+00C0  
 20339 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2  
 20340 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
 20341 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE  
 20342 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6  
 20343 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}% U+1EB0

20344 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2  
 20345 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4  
 20346 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4  
 20347 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EA6  
 20348 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA8  
 20349 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8  
 20350 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA  
 20351 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
 20352 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
 20353 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}% U+00C8  
 20354 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA  
 20355 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 20356 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE  
 20357 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6  
 20358 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0  
 20359 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2  
 20360 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4  
 20361 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
 20362 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
 20363 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}% U+00CC  
 20364 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8  
 20365 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
 20366 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
 20367 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
 20368 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}% U+00D2  
 20369 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE  
 20370 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
 20371 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0  
 20372 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8  
 20373 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2  
 20374 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4  
 20375 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6  
 20376 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA  
 20377 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2  
 20378 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}% U+1EDC  
 20379 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE  
 20380 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0  
 20381 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
 20382 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
 20383 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9  
 20384 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6  
 20385 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
 20386 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8  
 20387 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0  
 20388 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}% U+1EEA  
 20389 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC  
 20390 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE  
 20391 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
 20392 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4  
 20393 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2  
 20394 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6  
 20395 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 20396 </p>

## 51.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```
20397 \(*puarenc)
20398 % U+0621;afii57409;ARABIC LETTER HAMZA
20399 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
20400 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
20401 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
20402 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
20403 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
20404 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
20405 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
20406 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
20407 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
20408 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
20409 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626
20410 % U+0627;afii57415;ARABIC LETTER ALEF
20411 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627
20412 % U+0628;afii57416;ARABIC LETTER BEH
20413 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628
20414 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA
20415 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629
20416 % U+062A;afii57418;ARABIC LETTER TEH
20417 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A
20418 % U+062B;afii57419;ARABIC LETTER THEH
20419 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B
20420 % U+062C;afii57420;ARABIC LETTER JEEM
20421 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C
20422 % U+062D;afii57421;ARABIC LETTER HAH
20423 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D
20424 % U+062E;afii57422;ARABIC LETTER KHAH
20425 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E
20426 % U+062F;afii57423;ARABIC LETTER DAL
20427 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F
20428 % U+0630;afii57424;ARABIC LETTER THAL
20429 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630
20430 % U+0631;afii57425;ARABIC LETTER REH
20431 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631
20432 % U+0632;afii57426;ARABIC LETTER ZAIN
20433 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632
20434 % U+0633;afii57427;ARABIC LETTER SEEN
20435 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633
20436 % U+0634;afii57428;ARABIC LETTER SHEEN
20437 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634
20438 % U+0635;afii57429;ARABIC LETTER SAD
20439 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635
20440 % U+0636;afii57430;ARABIC LETTER DAD
20441 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636
20442 % U+0637;afii57431;ARABIC LETTER TAH
20443 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637
20444 % U+0638;afii57432;ARABIC LETTER ZAH
20445 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638
20446 % U+0639;afii57433;ARABIC LETTER AIN
20447 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639
20448 % U+063A;afii57434;ARABIC LETTER GHAIN
20449 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A
20450 % U+0640;afii57440;ARABIC TATWEEL
```

20451 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640  
 20452 % U+0641;afii57441;ARABIC LETTER FEH  
 20453 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641  
 20454 % U+0642;afii57442;ARABIC LETTER QAF  
 20455 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642  
 20456 % U+0643;afii57443;ARABIC LETTER KAF  
 20457 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643  
 20458 % U+0644;afii57444;ARABIC LETTER LAM  
 20459 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644  
 20460 % U+0645;afii57445;ARABIC LETTER MEEM  
 20461 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645  
 20462 % U+0646;afii57446;ARABIC LETTER NOON  
 20463 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646  
 20464 % U+0647;afii57470;ARABIC LETTER HEH  
 20465 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647  
 20466 % U+0648;afii57448;ARABIC LETTER WAW  
 20467 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648  
 20468 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA  
 20469 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649  
 20470 % U+064A;afii57450;ARABIC LETTER YEH  
 20471 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A  
  
 20472 % U+064B;afii57451;ARABIC FATHATAN  
 20473 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B  
 20474 % U+064C;afii57452;ARABIC DAMMATAN  
 20475 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C  
 20476 % U+064D;afii57453;ARABIC KASRATAN  
 20477 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D  
 20478 % U+064E;afii57454;ARABIC FATHA  
 20479 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E  
 20480 % U+064F;afii57455;ARABIC DAMMA  
 20481 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F  
 20482 % U+0650;afii57456;ARABIC KASRA  
 20483 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650  
 20484 % U+0651;afii57457;ARABIC SHADDA  
 20485 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651  
 20486 % U+0652;afii57458;ARABIC SUKUN  
 20487 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652  
  
 Farsi  
 20488 % U+067E ARABIC LETTER PEH; afii57506  
 20489 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E  
 20490 % U+0686 ARABIC LETTER TCHEH; afii57507  
 20491 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686  
 20492 % U+0698 ARABIC LETTER JEH; afii57508  
 20493 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698  
 20494 % U+06A9 ARABIC LETTER KEHEH  
 20495 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9  
 20496 % U+06AF ARABIC LETTER GAF; afii57509  
 20497 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF  
 20498 % U+06CC ARABIC LETTER FARSI YEH  
 20499 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC  
  
 20500 % U+200C ZERO WIDTH NON-JOINER; afii61664  
 20501 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C  
 20502 % U+200D ZERO WIDTH JOINER; afii301  
 20503 \DeclareTextCommand{\noboundary}{PU}{\9040\015}% U+200D  
 20504 </puarenc>

```

20505 \psdextra
20506 \Hy@VersionCheck{psdextra.def}
20507 \newcommand*{\psdmapshortnames}{%
20508   \let\MVPlus\textMVPlus
20509   \let\MVComma\textMVComma
20510   \let\MVMinus\textMVMinus
20511   \let\MVPeriod\textMVPeriod
20512   \let\MVDivision\textMVDivision
20513   \let\MVZero\textMVZero
20514   \let\MVOne\textMVOne
20515   \let\MVTwo\textMVTwo
20516   \let\MVThree\textMVThree
20517   \let\MVFour\textMVFour
20518   \let\MVFive\textMVFive
20519   \let\MVSix\textMVSix
20520   \let\MVSeven\textMVSeven
20521   \let\MVEight\textMVEight
20522   \let\MVNine\textMVNine
20523   \let\MVAt\textMVAt
20524   \let\copyright\textcopyright
20525   \let\twosuperior\texttwosuperior
20526   \let\threesuperior\textthreesuperior
20527   \let\onesuperior\textonesuperior
20528   \let\Thorn\textThorn
20529   \let\thorn\textthorn
20530   \let\hbar\texthbar
20531   \let\hausA\texthausA
20532   \let\hausD\texthausD
20533   \let\hausK\texthausK
20534   \let\barl\textbarl
20535   \let\inve\textinve
20536   \let\slashc\textslashc
20537   \let\scripta\textscripta
20538   \let\openo\textopeno
20539   \let\rtaild\textrtaild
20540   \let\reve\textreve
20541   \let\schwa\textschwa
20542   \let\niepsilon\textniepsilon
20543   \let\repsilon\textrepsilon
20544   \let\rhookrepsilon\texthookrepsilon
20545   \let\scriptg\textscriptg
20546   \let\scg\textscg
20547   \let\ipagamma\textipagamma
20548   \let\babygamma\textbabygamma
20549   \let\bari\textbari
20550   \let\niota\textniota
20551   \let\sci\textsci
20552   \let\scn\textscn
20553   \let\niphi\textniphi
20554   \let\longleg\textlongleg
20555   \let\scr\textscr
20556   \let\invscr\textinvscr
20557   \let\esh\textesh
20558   \let\baru\textbaru
20559   \let\niupsilon\textniupsilon
20560   \let\scriptv\textscriptv
20561   \let\turnv\textturnv

```



20562 \let\turnw\textturnw  
 20563 \let\turny\textturny  
 20564 \let\scy\textscy  
 20565 \let\yogh\textyogh  
 20566 \let\glotstop\textglotstop  
 20567 \let\revglotstop\textrevglotstop  
 20568 \let\invglotstop\textinvglotstop  
 20569 \let\Gamma\textGamma  
 20570 \let\Delta\textDelta  
 20571 \let\Theta\textTheta  
 20572 \let\Lambda\textLambda  
 20573 \let\Xi\textXi  
 20574 \let\Pi\textPi  
 20575 \let\Sigma\textSigma  
 20576 \let\Upsilon\textUpsilon  
 20577 \let\Phi\textPhi  
 20578 \let\Psi\textPsi  
 20579 \let\Omega\textOmega  
 20580 \let\alpha\textalpha  
 20581 \let\beta\textbeta  
 20582 \let\gamma\textgamma  
 20583 \let\delta\textdelta  
 20584 \let\epsilon\textepsilon  
 20585 \let\zeta\textzeta  
 20586 \let\eta\texteta  
 20587 \let\theta\texttheta  
 20588 \let\iota\textiota  
 20589 \let\kappa\textkappa  
 20590 \let\lambda\textlambda  
 20591 \let\mu\textmu  
 20592 \let\nu\textnu  
 20593 \let\xi\textxi  
 20594 \let\pi\textpi  
 20595 \let\rho\rho  
 20596 \let\varsigma\textvarsigma  
 20597 \let\sigma\textsigma  
 20598 \let\tau\texttau  
 20599 \let\upsilon\textupsilon  
 20600 \let\phi\textphi  
 20601 \let\chi\textchi  
 20602 \let\psi\textpsi  
 20603 \let\omega\textomega  
 20604 \let\scd\textscd  
 20605 \let\scu\textscu  
 20606 \let\iinferior\textinferior  
 20607 \let\rinferior\textinferior  
 20608 \let\uiinferior\textinferior  
 20609 \let\vinferior\textinferior  
 20610 \let\betainferior\textbetainferior  
 20611 \let\gammainferior\textgammainferior  
 20612 \let\rhoinferior\textrhoinferior  
 20613 \let\phiinferior\textphiinferior  
 20614 \let\chiinferior\textchiinferior  
 20615 \let\barsci\textbarsci  
 20616 \let\barp\textbarp  
 20617 \let\barscu\textbarscu  
 20618 \let\htrtaild\texthtrtaild

20619 `\let\dagger\textdagger`  
 20620 `\let\bullet\textbullet`  
 20621 `\let\hdotfor\texthdotfor`  
 20622 `\let\prime\textprime`  
 20623 `\let\second\textsecond`  
 20624 `\let\third\textthird`  
 20625 `\let\backprime\textbackprime`  
 20626 `\let\lefttherefore\textlefttherefore`  
 20627 `\let\fourth\textfourth`  
 20628 `\let\diamonddots\textdiamonddots`  
 20629 `\let\zerosuperior\textzerosuperior`  
 20630 `\let\isuperior\textisuperior`  
 20631 `\let\foursuperior\textfoursuperior`  
 20632 `\let\fivesuperior\textfivesuperior`  
 20633 `\let\sixsuperior\textsixsuperior`  
 20634 `\let\sevensuperior\textsevensuperior`  
 20635 `\let\eightsuperior\texteightsuperior`  
 20636 `\let\ninesuperior\textninesuperior`  
 20637 `\let\plussuperior\textplussuperior`  
 20638 `\let\minussuperior\textminussuperior`  
 20639 `\let>equalsuperior\textequalsuperior`  
 20640 `\let\parenleftsuperior\textparenleftsuperior`  
 20641 `\let\parenrightsuperior\textparenrightsuperior`  
 20642 `\let\nsuperior\textnsuperior`  
 20643 `\let\zeroinferior\textzeroinferior`  
 20644 `\let\oneinferior\textoneinferior`  
 20645 `\let\twoinferior\texttwoinferior`  
 20646 `\let\threeinferior\textthreeinferior`  
 20647 `\let\fourinferior\textfourinferior`  
 20648 `\let\fiveinferior\textfiveinferior`  
 20649 `\let\sixinferior\textsixinferior`  
 20650 `\let\seveninferior\textseveninferior`  
 20651 `\let\eightinferior\texteightinferior`  
 20652 `\let\nineinferior\textnineinferior`  
 20653 `\let\plusinferior\textplusinferior`  
 20654 `\let\minusinferior\textminusinferior`  
 20655 `\let>equalsinferior\textequalsinferior`  
 20656 `\let\parenleftinferior\textparenleftinferior`  
 20657 `\let\parenrightinferior\textparenrightinferior`  
 20658 `\let\ainferior\textainferior`  
 20659 `\let\einferior\texteinferior`  
 20660 `\let\oinferior\textoinferior`  
 20661 `\let\xinferior\textxinferior`  
 20662 `\let\schwainferior\textschwainferior`  
 20663 `\let\hinferior\texthinferior`  
 20664 `\let\kinferior\textkinferior`  
 20665 `\let\linferior\textlinferior`  
 20666 `\let\mininferior\textmininferior`  
 20667 `\let\ninferior\textninferior`  
 20668 `\let\pinferior\textpinferior`  
 20669 `\let\sinferior\textsinferior`  
 20670 `\let\tinferior\texttinferior`  
 20671 `\let\Deleatur\textDeleatur`  
 20672 `\let\hslash\texthslash`  
 20673 `\let\Im\textIm`  
 20674 `\let\ell\textell`  
 20675 `\let\wp\textwp`

20676 \let\Re\textRe  
 20677 \let\mho\textmho  
 20678 \let\riota\textriota  
 20679 \let\Finv\textFinv  
 20680 \let\aleph\textaleph  
 20681 \let\beth\textbeth  
 20682 \let\gimel\textgimel  
 20683 \let\daleth\textdaleth  
 20684 \let\xfax\textfax  
 20685 \let\Game\textGame  
 20686 \let\leftarrow\textleftarrow  
 20687 \let\uparrow\textuparrow  
 20688 \let\rightarrow\textrightarrow  
 20689 \let\downarrow\textdownarrow  
 20690 \let\leftrightarrow\textleftrightarrow  
 20691 \let\updownarrow\textupdownarrow  
 20692 \let\nwarrow\textnwarrow  
 20693 \let\nearrow\textnearrow  
 20694 \let\searrow\textsearrow  
 20695 \let\swarrow\textswarrow  
 20696 \let\nleftarrow\textnleftarrow  
 20697 \let\nrightarrow\textnrightarrow  
 20698 \let\twoheadleftarrow\texttwoheadleftarrow  
 20699 \let\ntwoheadleftarrow\textntwoheadleftarrow  
 20700 \let\twoheaduparrow\texttwoheaduparrow  
 20701 \let\twoheadrightarrow\texttwoheadrightarrow  
 20702 \let\ntwoheadrightarrow\textntwoheadrightarrow  
 20703 \let\twoheaddownarrow\texttwoheaddownarrow  
 20704 \let\leftarrowtail\textleftarrowtail  
 20705 \let\rightarrowtail\textrightarrowtail  
 20706 \let\mapsto\textmapsto  
 20707 \let\hookleftarrow\texthookleftarrow  
 20708 \let\hookrightarrow\texthookrightarrow  
 20709 \let\looparrowleft\textlooparrowleft  
 20710 \let\looparrowright\textlooparrowright  
 20711 \let\leftrightharpoonup\textleftrightharpoonup  
 20712 \let\lightning\textlightning  
 20713 \let\dlsh\textdlsh  
 20714 \let\curvearrowleft\textcurvearrowleft  
 20715 \let\curvearrowright\textcurvearrowright  
 20716 \let\leftharpoonup\textleftharpoonup  
 20717 \let\leftharpoondown\textleftharpoondown  
 20718 \let\upharpoonright\textupharpoonright  
 20719 \let\upharpoonleft\textupharpoonleft  
 20720 \let\rightharpoonup\textrightharpoonup  
 20721 \let\rightharpoondown\textrightharpoondown  
 20722 \let\downharpoonright\textdownharpoonright  
 20723 \let\downharpoonleft\textdownharpoonleft  
 20724 \let\rightleftarrows\textrightleftarrows  
 20725 \let\updownarrows\textupdownarrows  
 20726 \let\leftrightarrows\textleftrightarrows  
 20727 \let\leftleftarrows\textleftleftarrows  
 20728 \let\upuparrows\textupuparrows  
 20729 \let\righttrightarrows\textrighttrightarrows  
 20730 \let\downdownarrows\textdowndownarrows  
 20731 \let\leftrightharpoons\textleftrightharpoons  
 20732 \let\rightleftharpoons\textrightleftharpoons

20733  $\backslash\text{let}\backslash\text{nLeftarrow}\backslash\text{textnLeftarrow}$   
 20734  $\backslash\text{let}\backslash\text{nLeftrightarrow}\backslash\text{textnLeftrightarrow}$   
 20735  $\backslash\text{let}\backslash\text{nRrightarrow}\backslash\text{textnRrightarrow}$   
 20736  $\backslash\text{let}\backslash\text{Leftarrow}\backslash\text{textLeftarrow}$   
 20737  $\backslash\text{let}\backslash\text{Uparrow}\backslash\text{textUparrow}$   
 20738  $\backslash\text{let}\backslash\text{Rrightarrow}\backslash\text{textRrightarrow}$   
 20739  $\backslash\text{let}\backslash\text{Downarrow}\backslash\text{textDownarrow}$   
 20740  $\backslash\text{let}\backslash\text{Leftrightarrow}\backslash\text{textLeftrightarrow}$   
 20741  $\backslash\text{let}\backslash\text{Updownarrow}\backslash\text{textUpdownarrow}$   
 20742  $\backslash\text{let}\backslash\text{Nwarrow}\backslash\text{textNwarrow}$   
 20743  $\backslash\text{let}\backslash\text{Nearrow}\backslash\text{textNearrow}$   
 20744  $\backslash\text{let}\backslash\text{Searrow}\backslash\text{textSearrow}$   
 20745  $\backslash\text{let}\backslash\text{Swarrow}\backslash\text{textSwarrow}$   
 20746  $\backslash\text{let}\backslash\text{Lleftarrow}\backslash\text{textLleftarrow}$   
 20747  $\backslash\text{let}\backslash\text{Rrightarrow}\backslash\text{textRrightarrow}$   
 20748  $\backslash\text{let}\backslash\text{leftsquigarrow}\backslash\text{textleftsquigarrow}$   
 20749  $\backslash\text{let}\backslash\text{rightsquigarrow}\backslash\text{textrightsquigarrow}$   
 20750  $\backslash\text{let}\backslash\text{dashleftarrow}\backslash\text{texdashleftarrow}$   
 20751  $\backslash\text{let}\backslash\text{dasheduparrow}\backslash\text{texdasheduparrow}$   
 20752  $\backslash\text{let}\backslash\text{dashrightarrow}\backslash\text{texdashrightarrow}$   
 20753  $\backslash\text{let}\backslash\text{dasheddownarrow}\backslash\text{texdasheddownarrow}$   
 20754  $\backslash\text{let}\backslash\text{pointer}\backslash\text{textpointer}$   
 20755  $\backslash\text{let}\backslash\text{downuparrows}\backslash\text{texdownuparrows}$   
 20756  $\backslash\text{let}\backslash\text{leftarrowtriangle}\backslash\text{textleftarrowtriangle}$   
 20757  $\backslash\text{let}\backslash\text{rightarrowtriangle}\backslash\text{textrightarrowtriangle}$   
 20758  $\backslash\text{let}\backslash\text{leftrightarrowtriangle}\backslash\text{textleftrightarrowtriangle}$   
 20759  $\backslash\text{let}\backslash\text{forall}\backslash\text{textforall}$   
 20760  $\backslash\text{let}\backslash\text{complement}\backslash\text{textcomplement}$   
 20761  $\backslash\text{let}\backslash\text{partial}\backslash\text{textpartial}$   
 20762  $\backslash\text{let}\backslash\text{exists}\backslash\text{textexists}$   
 20763  $\backslash\text{let}\backslash\text{nexists}\backslash\text{textnexists}$   
 20764  $\backslash\text{let}\backslash\text{emptyset}\backslash\text{textemptyset}$   
 20765  $\backslash\text{let}\backslash\text{triangle}\backslash\text{texttriangle}$   
 20766  $\backslash\text{let}\backslash\text{nabla}\backslash\text{textnabla}$   
 20767  $\backslash\text{let}\backslash\text{in}\backslash\text{textin}$   
 20768  $\backslash\text{let}\backslash\text{notin}\backslash\text{textnotin}$   
 20769  $\backslash\text{let}\backslash\text{smallin}\backslash\text{textsmallin}$   
 20770  $\backslash\text{let}\backslash\text{ni}\backslash\text{textni}$   
 20771  $\backslash\text{let}\backslash\text{notowner}\backslash\text{textnotowner}$   
 20772  $\backslash\text{let}\backslash\text{smallowns}\backslash\text{textsmallowns}$   
 20773  $\backslash\text{let}\backslash\text{prod}\backslash\text{textprod}$   
 20774  $\backslash\text{let}\backslash\text{amalg}\backslash\text{textamalg}$   
 20775  $\backslash\text{let}\backslash\text{sum}\backslash\text{textsum}$   
 20776  $\backslash\text{let}\backslash\text{mp}\backslash\text{textmp}$   
 20777  $\backslash\text{let}\backslash\text{dotplus}\backslash\text{texdotplus}$   
 20778  $\backslash\text{let}\backslash\text{Divides}\backslash\text{textDivides}$   
 20779  $\backslash\text{let}\backslash\text{DividesNot}\backslash\text{textDividesNot}$   
 20780  $\backslash\text{let}\backslash\text{setminus}\backslash\text{textsetminus}$   
 20781  $\backslash\text{let}\backslash\text{ast}\backslash\text{textast}$   
 20782  $\backslash\text{let}\backslash\text{circ}\backslash\text{textcirc}$   
 20783  $\backslash\text{let}\backslash\text{surd}\backslash\text{textsurd}$   
 20784  $\backslash\text{let}\backslash\text{propto}\backslash\text{textpropto}$   
 20785  $\backslash\text{let}\backslash\text{infty}\backslash\text{textinfty}$   
 20786  $\backslash\text{let}\backslash\text{angle}\backslash\text{textangle}$   
 20787  $\backslash\text{let}\backslash\text{measuredangle}\backslash\text{textmeasuredangle}$   
 20788  $\backslash\text{let}\backslash\text{sphericalangle}\backslash\text{textsphericalangle}$   
 20789  $\backslash\text{let}\backslash\text{mid}\backslash\text{textmid}$

20790 \let\nmid\textnmid  
 20791 \let\parallel\textparallel  
 20792 \let\nparallel\textnparallel  
 20793 \let\wedge\textwedge  
 20794 \let\owedge\textowedge  
 20795 \let\vee\textvee  
 20796 \let\ovee\textovee  
 20797 \let\cap\textcap  
 20798 \let\cup\textcup  
 20799 \let\int\textint  
 20800 \let\iint\textiint  
 20801 \let\iiint\textiiint  
 20802 \let\oint\textoint  
 20803 \let\oiint\textoiint  
 20804 \let\ointclockwise\textointclockwise  
 20805 \let\ointctrlockwise\textointctrlockwise  
 20806 \let\therefore\texttherefore  
 20807 \let\because\textbecause  
 20808 \let\vdots\textvdots  
 20809 \let\squaredots\textsquaredots  
 20810 \let\dotminus\textdotminus  
 20811 \let\eqcolon\texteqcolon  
 20812 \let\sim\textsim  
 20813 \let\backsim\textbacksim  
 20814 \let\nbacksim\textnbacksim  
 20815 \let\wr\textwr  
 20816 \let\sim\textnsim  
 20817 \let\eqsim\texteqsim  
 20818 \let\neqsim\textneqsim  
 20819 \let\simeq\textsimeq  
 20820 \let\nsimeq\textnsimeq  
 20821 \let\cong\textcong  
 20822 \let\ncong\textncong  
 20823 \let\approx\textapprox  
 20824 \let\napprox\textnapprox  
 20825 \let\approxeq\textapproxeq  
 20826 \let\napproxeq\textnapproxeq  
 20827 \let\triplesim\texttriplesim  
 20828 \let\ntriplesim\textntriplesim  
 20829 \let\backcong\textbackcong  
 20830 \let\nbackcong\textnbackcong  
 20831 \let\asymp\textasymp  
 20832 \let\nasymp\textnasymp  
 20833 \let\Bumpeq\textBumpeq  
 20834 \let\NBumpeq\textNBumpeq  
 20835 \let\bumpeq\textbumpeq  
 20836 \let\NBumpeq\textNBumpeq  
 20837 \let\doteq\textdoteq  
 20838 \let\ndoteq\textndoteq  
 20839 \let\doteqdot\textdoteqdot  
 20840 \let\NDoteq\textNDoteq  
 20841 \let\fallingdoteq\textfallingdoteq  
 20842 \let\Nfallingdoteq\textNfallingdoteq  
 20843 \let\risingdoteq\textrisingdoteq  
 20844 \let\Nrisingdoteq\textNrisingdoteq  
 20845 \let\colonequals\textcolonequals  
 20846 \let\equalscolon\textequalscolon

20847  $\backslash\mathrm{eqcirc}\text{teqcirc}$   
 20848  $\backslash\mathrm{neqcirc}\text{textneqcirc}$   
 20849  $\backslash\mathrm{circeq}\text{textcirceq}$   
 20850  $\backslash\mathrm{ncirceq}\text{textncirceq}$   
 20851  $\backslash\mathrm{hateq}\text{texthateq}$   
 20852  $\backslash\mathrm{nhateq}\text{textnhateq}$   
 20853  $\backslash\mathrm{triangleeq}\text{texttriangleeq}$   
 20854  $\backslash\mathrm{neq}\text{textneq}$   
 20855  $\backslash\mathrm{ne}\text{textne}$   
 20856  $\backslash\mathrm{equiv}\text{tequiv}$   
 20857  $\backslash\mathrm{nequiv}\text{textnequiv}$   
 20858  $\backslash\mathrm{leq}\text{textleq}$   
 20859  $\backslash\mathrm{le}\text{textle}$   
 20860  $\backslash\mathrm{geq}\text{textgeq}$   
 20861  $\backslash\mathrm{ge}\text{textge}$   
 20862  $\backslash\mathrm{leqq}\text{textleqq}$   
 20863  $\backslash\mathrm{nleqq}\text{textnleqq}$   
 20864  $\backslash\mathrm{geqq}\text{textgeqq}$   
 20865  $\backslash\mathrm{ngeqq}\text{textngeqq}$   
 20866  $\backslash\mathrm{lneqq}\text{textlneqq}$   
 20867  $\backslash\mathrm{gneqq}\text{textgneqq}$   
 20868  $\backslash\mathrm{ll}\text{textll}$   
 20869  $\backslash\mathrm{nll}\text{textnll}$   
 20870  $\backslash\mathrm{gg}\text{textgg}$   
 20871  $\backslash\mathrm{ngg}\text{textngg}$   
 20872  $\backslash\mathrm{between}\text{textbetween}$   
 20873  $\backslash\mathrm{nless}\text{textnless}$   
 20874  $\backslash\mathrm{ngtr}\text{textngtr}$   
 20875  $\backslash\mathrm{nleq}\text{textnleq}$   
 20876  $\backslash\mathrm{ngeq}\text{textngeq}$   
 20877  $\backslash\mathrm{lesssim}\text{textlessim}$   
 20878  $\backslash\mathrm{gtrsim}\text{textgtrsim}$   
 20879  $\backslash\mathrm{nlesssim}\text{textnlessim}$   
 20880  $\backslash\mathrm{ngtrsim}\text{textngtrsim}$   
 20881  $\backslash\mathrm{lessgtr}\text{textlessgtr}$   
 20882  $\backslash\mathrm{gtrless}\text{textgtrless}$   
 20883  $\backslash\mathrm{ngtrless}\text{textngtrless}$   
 20884  $\backslash\mathrm{nlessgtr}\text{textnlessgtr}$   
 20885  $\backslash\mathrm{prec}\text{textprec}$   
 20886  $\backslash\mathrm{succ}\text{textsucc}$   
 20887  $\backslash\mathrm{preccurlyeq}\text{textpreccurlyeq}$   
 20888  $\backslash\mathrm{succcurlyeq}\text{textsucccurlyeq}$   
 20889  $\backslash\mathrm{precsim}\text{textprecsim}$   
 20890  $\backslash\mathrm{nprecsim}\text{textnprecsim}$   
 20891  $\backslash\mathrm{succsim}\text{textsuccsim}$   
 20892  $\backslash\mathrm{nsuccsim}\text{textnsuccsim}$   
 20893  $\backslash\mathrm{nprec}\text{textnprec}$   
 20894  $\backslash\mathrm{nsucc}\text{textnsucc}$   
 20895  $\backslash\mathrm{subset}\text{textsubset}$   
 20896  $\backslash\mathrm{supset}\text{textsupset}$   
 20897  $\backslash\mathrm{nssubset}\text{textnssubset}$   
 20898  $\backslash\mathrm{nsupset}\text{textnsupset}$   
 20899  $\backslash\mathrm{subseteq}\text{textsubseteq}$   
 20900  $\backslash\mathrm{supseteq}\text{textsupseteq}$   
 20901  $\backslash\mathrm{nsubseteq}\text{textnsubseteq}$   
 20902  $\backslash\mathrm{nsupseteq}\text{textnsupseteq}$   
 20903  $\backslash\mathrm{subsetneq}\text{textsubsetneq}$

20904  $\backslash\text{let}\backslash\text{supsetneq}\backslash\text{textsupsetneq}$   
 20905  $\backslash\text{let}\backslash\text{cupdot}\backslash\text{textcupdot}$   
 20906  $\backslash\text{let}\backslash\text{cupplus}\backslash\text{textcupplus}$   
 20907  $\backslash\text{let}\backslash\text{sqsubset}\backslash\text{textsqsubset}$   
 20908  $\backslash\text{let}\backslash\text{nsqsubset}\backslash\text{textnsqsubset}$   
 20909  $\backslash\text{let}\backslash\text{sqsupset}\backslash\text{textsqsupset}$   
 20910  $\backslash\text{let}\backslash\text{nsqsupset}\backslash\text{textnsqsupset}$   
 20911  $\backslash\text{let}\backslash\text{sqsubseteq}\backslash\text{textsqsubseteq}$   
 20912  $\backslash\text{let}\backslash\text{nsqsubseteq}\backslash\text{textnsqsubseteq}$   
 20913  $\backslash\text{let}\backslash\text{sqsupseteq}\backslash\text{textsqsupseteq}$   
 20914  $\backslash\text{let}\backslash\text{nsqsupseteq}\backslash\text{textnsqsupseteq}$   
 20915  $\backslash\text{let}\backslash\text{sqcap}\backslash\text{textsqcap}$   
 20916  $\backslash\text{let}\backslash\text{sqcup}\backslash\text{textsqcup}$   
 20917  $\backslash\text{let}\backslash\text{oplus}\backslash\text{textoplus}$   
 20918  $\backslash\text{let}\backslash\text{ominus}\backslash\text{textominus}$   
 20919  $\backslash\text{let}\backslash\text{otimes}\backslash\text{textotimes}$   
 20920  $\backslash\text{let}\backslash\text{oslash}\backslash\text{textoslash}$   
 20921  $\backslash\text{let}\backslash\text{odot}\backslash\text{textodot}$   
 20922  $\backslash\text{let}\backslash\text{circledcirc}\backslash\text{textcircledcirc}$   
 20923  $\backslash\text{let}\backslash\text{circledast}\backslash\text{textcircledast}$   
 20924  $\backslash\text{let}\backslash\text{circledash}\backslash\text{textcircledash}$   
 20925  $\backslash\text{let}\backslash\text{boxplus}\backslash\text{textboxplus}$   
 20926  $\backslash\text{let}\backslash\text{boxminus}\backslash\text{textboxminus}$   
 20927  $\backslash\text{let}\backslash\text{boxtimes}\backslash\text{textboxtimes}$   
 20928  $\backslash\text{let}\backslash\text{boxdot}\backslash\text{textboxdot}$   
 20929  $\backslash\text{let}\backslash\text{vdash}\backslash\text{textvdash}$   
 20930  $\backslash\text{let}\backslash\text{dashv}\backslash\text{texdashv}$   
 20931  $\backslash\text{let}\backslash\text{ndashv}\backslash\text{textndashv}$   
 20932  $\backslash\text{let}\backslash\text{top}\backslash\text{texttop}$   
 20933  $\backslash\text{let}\backslash\text{ndownvdash}\backslash\text{textndownvdash}$   
 20934  $\backslash\text{let}\backslash\text{bot}\backslash\text{textbot}$   
 20935  $\backslash\text{let}\backslash\text{nupvdash}\backslash\text{textnupvdash}$   
 20936  $\backslash\text{let}\backslash\text{vDash}\backslash\text{textvDash}$   
 20937  $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$   
 20938  $\backslash\text{let}\backslash\text{Vvdash}\backslash\text{textVvdash}$   
 20939  $\backslash\text{let}\backslash\text{nVdash}\backslash\text{textnVdash}$   
 20940  $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$   
 20941  $\backslash\text{let}\backslash\text{nvDash}\backslash\text{textnvDash}$   
 20942  $\backslash\text{let}\backslash\text{nvDash}\backslash\text{textnvDash}$   
 20943  $\backslash\text{let}\backslash\text{nVdash}\backslash\text{textnVdash}$   
 20944  $\backslash\text{let}\backslash\text{nVDash}\backslash\text{textnVDash}$   
 20945  $\backslash\text{let}\backslash\text{lhs}\backslash\text{textrhs}$   
 20946  $\backslash\text{let}\backslash\text{rhd}\backslash\text{textrhd}$   
 20947  $\backslash\text{let}\backslash\text{unlhd}\backslash\text{textunlhd}$   
 20948  $\backslash\text{let}\backslash\text{unrhd}\backslash\text{textunrhd}$   
 20949  $\backslash\text{let}\backslash\text{multimapdotbothA}\backslash\text{textmultimapdotbothA}$   
 20950  $\backslash\text{let}\backslash\text{multimapdotbothB}\backslash\text{textmultimapdotbothB}$   
 20951  $\backslash\text{let}\backslash\text{multimap}\backslash\text{textmultimap}$   
 20952  $\backslash\text{let}\backslash\text{veebar}\backslash\text{textveebar}$   
 20953  $\backslash\text{let}\backslash\text{barwedge}\backslash\text{textbarwedge}$   
 20954  $\backslash\text{let}\backslash\text{star}\backslash\text{textstar}$   
 20955  $\backslash\text{let}\backslash\text{divideontimes}\backslash\text{textdivideontimes}$   
 20956  $\backslash\text{let}\backslash\text{bowtie}\backslash\text{textbowtie}$   
 20957  $\backslash\text{let}\backslash\text{ltimes}\backslash\text{texltimes}$   
 20958  $\backslash\text{let}\backslash\text{rtimes}\backslash\text{texrtimes}$   
 20959  $\backslash\text{let}\backslash\text{leftthreetimes}\backslash\text{textleftthreetimes}$   
 20960  $\backslash\text{let}\backslash\text{rightthreetimes}\backslash\text{textrightthreetimes}$

20961  $\backslash\text{let}\backslash\text{backsimeq}\backslash\text{textbacksimeq}$   
 20962  $\backslash\text{let}\backslash\text{nbacksimeq}\backslash\text{textnbacksimeq}$   
 20963  $\backslash\text{let}\backslash\text{curlyvee}\backslash\text{textcurlyvee}$   
 20964  $\backslash\text{let}\backslash\text{curlywedge}\backslash\text{textcurlywedge}$   
 20965  $\backslash\text{let}\backslash\text{Subset}\backslash\text{textSubset}$   
 20966  $\backslash\text{let}\backslash\text{nSubset}\backslash\text{textnSubset}$   
 20967  $\backslash\text{let}\backslash\text{Supset}\backslash\text{textSupset}$   
 20968  $\backslash\text{let}\backslash\text{nSupset}\backslash\text{textnSupset}$   
 20969  $\backslash\text{let}\backslash\text{Cap}\backslash\text{textCap}$   
 20970  $\backslash\text{let}\backslash\text{Cup}\backslash\text{textCup}$   
 20971  $\backslash\text{let}\backslash\text{pitchfork}\backslash\text{textpitchfork}$   
 20972  $\backslash\text{let}\backslash\text{lessdot}\backslash\text{textlessdot}$   
 20973  $\backslash\text{let}\backslash\text{gtrdot}\backslash\text{textgtrdot}$   
 20974  $\backslash\text{let}\backslash\text{lll}\backslash\text{texlll}$   
 20975  $\backslash\text{let}\backslash\text{ggg}\backslash\text{textggg}$   
 20976  $\backslash\text{let}\backslash\text{lesseqgtr}\backslash\text{textlesseqgtr}$   
 20977  $\backslash\text{let}\backslash\text{gtreqless}\backslash\text{textgtreqless}$   
 20978  $\backslash\text{let}\backslash\text{curlyeqprec}\backslash\text{textcurlyeqprec}$   
 20979  $\backslash\text{let}\backslash\text{ncurlyeqprec}\backslash\text{textncurlyeqprec}$   
 20980  $\backslash\text{let}\backslash\text{curlyeqsucc}\backslash\text{textcurlyeqsucc}$   
 20981  $\backslash\text{let}\backslash\text{ncurlyeqsucc}\backslash\text{textncurlyeqsucc}$   
 20982  $\backslash\text{let}\backslash\text{npreccurlyeq}\backslash\text{textnpreccurlyeq}$   
 20983  $\backslash\text{let}\backslash\text{nsucccurlyeq}\backslash\text{textnsucccurlyeq}$   
 20984  $\backslash\text{let}\backslash\text{nqsubseteq}\backslash\text{textnqsubseteq}$   
 20985  $\backslash\text{let}\backslash\text{nqsupseteq}\backslash\text{textnqsupseteq}$   
 20986  $\backslash\text{let}\backslash\text{sqsubsetneq}\backslash\text{textsqsubsetneq}$   
 20987  $\backslash\text{let}\backslash\text{sqsupsetneq}\backslash\text{textsqsupsetneq}$   
 20988  $\backslash\text{let}\backslash\text{lnsim}\backslash\text{textlnsim}$   
 20989  $\backslash\text{let}\backslash\text{gnsim}\backslash\text{textgnsim}$   
 20990  $\backslash\text{let}\backslash\text{precnsim}\backslash\text{textprecnsim}$   
 20991  $\backslash\text{let}\backslash\text{succnsim}\backslash\text{textsuccnsim}$   
 20992  $\backslash\text{let}\backslash\text{ntriangleleft}\backslash\text{textntriangleleft}$   
 20993  $\backslash\text{let}\backslash\text{ntriangleright}\backslash\text{textntriangleright}$   
 20994  $\backslash\text{let}\backslash\text{ntrianglelefteq}\backslash\text{textntrianglelefteq}$   
 20995  $\backslash\text{let}\backslash\text{ntrianglerighteq}\backslash\text{textntrianglerighteq}$   
 20996  $\backslash\text{let}\backslash\text{vdots}\backslash\text{textvdots}$   
 20997  $\backslash\text{let}\backslash\text{cdots}\backslash\text{textcdots}$   
 20998  $\backslash\text{let}\backslash\text{udots}\backslash\text{textudots}$   
 20999  $\backslash\text{let}\backslash\text{ddots}\backslash\text{texdddots}$   
 21000  $\backslash\text{let}\backslash\text{barin}\backslash\text{textbarin}$   
 21001  $\backslash\text{let}\backslash\text{diameter}\backslash\text{textdiameter}$   
 21002  $\backslash\text{let}\backslash\text{backneg}\backslash\text{textbackneg}$   
 21003  $\backslash\text{let}\backslash\text{wasylozenge}\backslash\text{textwasylozenge}$   
 21004  $\backslash\text{let}\backslash\text{invbackneg}\backslash\text{textinvbackneg}$   
 21005  $\backslash\text{let}\backslash\text{clock}\backslash\text{textclock}$   
 21006  $\backslash\text{let}\backslash\text{ulcorner}\backslash\text{textulcorner}$   
 21007  $\backslash\text{let}\backslash\text{urcorner}\backslash\text{texturcorner}$   
 21008  $\backslash\text{let}\backslash\text{llcorner}\backslash\text{textllcorner}$   
 21009  $\backslash\text{let}\backslash\text{lrcorner}\backslash\text{textlrcorner}$   
 21010  $\backslash\text{let}\backslash\text{frown}\backslash\text{textfrown}$   
 21011  $\backslash\text{let}\backslash\text{smile}\backslash\text{textsmile}$   
 21012  $\backslash\text{let}\backslash\text{Keyboard}\backslash\text{textKeyboard}$   
 21013  $\backslash\text{let}\backslash\text{langle}\backslash\text{textlangle}$   
 21014  $\backslash\text{let}\backslash\text{rangle}\backslash\text{textrangle}$   
 21015  $\backslash\text{let}\backslash\text{APLinv}\backslash\text{textAPLinv}$   
 21016  $\backslash\text{let}\backslash\text{Tumbler}\backslash\text{textTumbler}$   
 21017  $\backslash\text{let}\backslash\text{notslash}\backslash\text{textnotslash}$



21018 \let\notbackslash\textnotbackslash  
 21019 \let\boxbackslash\textboxbackslash  
 21020 \let\APLleftarrowbox\textAPLleftarrowbox  
 21021 \let\APLrightarrowbox\textAPLrightarrowbox  
 21022 \let\APLuparrowbox\textAPLuparrowbox  
 21023 \let\APLdownarrowbox\textAPLdownarrowbox  
 21024 \let\APLinput\textAPLinput  
 21025 \let\Request\textRequest  
 21026 \let\Beam\textBeam  
 21027 \let\hexagon\texthexagon  
 21028 \let\APLbox\textAPLbox  
 21029 \let\ForwardToIndex\textForwardToIndex  
 21030 \let\RewindToIndex\textRewindToIndex  
 21031 \let\bbslash\textbbslash  
 21032 \let\CircledA\textCircledA  
 21033 \let\CleaningF\textCleaningF  
 21034 \let\CleaningFF\textCleaningFF  
 21035 \let\CleaningP\textCleaningP  
 21036 \let\CleaningPP\textCleaningPP  
 21037 \let\CuttingLine\textCuttingLine  
 21038 \let\UParrow\textUParrow  
 21039 \let\bigtriangleup\textbigtriangleup  
 21040 \let\Forward\textForward  
 21041 \let\triangleright\texttriangleright  
 21042 \let\RHD\textRHD  
 21043 \let\DOWNarrow\textDOWNarrow  
 21044 \let\bigtriangledown\textbigtriangledown  
 21045 \let\Rewind\textRewind  
 21046 \let\triangleleft\texttriangleleft  
 21047 \let\LHD\textLHD  
 21048 \let\diamond\textdiamond  
 21049 \let\lozenge\textlozenge  
 21050 \let\LEFTCIRCLE\textLEFTCIRCLE  
 21051 \let\RIGHTCIRCLE\textRIGHTCIRCLE  
 21052 \let\openbullet\textopenbullet  
 21053 \let\boxbar\textboxbar  
 21054 \let\bigcircle\textbigcircle  
 21055 \let\Cloud\textCloud  
 21056 \let\FiveStar\textFiveStar  
 21057 \let\FiveStarOpen\textFiveStarOpen  
 21058 \let\Phone\textPhone  
 21059 \let\boxempty\textboxempty  
 21060 \let\Checkedbox\textCheckedbox  
 21061 \let\Crossedbox\textCrossedbox  
 21062 \let\Coffeecup\textCoffeecup  
 21063 \let\HandCuffLeft\textHandCuffLeft  
 21064 \let\HandCuffRight\textHandCuffRight  
 21065 \let\HandLeft\textHandLeft  
 21066 \let\HandRight\textHandRight  
 21067 \let\Radioactivity\textRadioactivity  
 21068 \let\Biohazard\textBiohazard  
 21069 \let\Ankh\textAnkh  
 21070 \let\YinYang\textYinYang  
 21071 \let\frownie\textfrownie  
 21072 \let\smiley\textsmiley  
 21073 \let\blacksmiley\textblacksmiley  
 21074 \let\sun\textsun

21075 \let\leftmoon\textleftmoon  
 21076 \let\rightmoon\textrightmoon  
 21077 \let\mercury\textmercury  
 21078 \let\earth\textearth  
 21079 \let\male\textmale  
 21080 \let\jupiter\textjupiter  
 21081 \let\saturn\textsaturn  
 21082 \let\uranus\texturanus  
 21083 \let\neptune\textneptune  
 21084 \let\pluto\textpluto  
 21085 \let\aries\textaries  
 21086 \let\taurus\texttaurus  
 21087 \let\gemini\textgemini  
 21088 \let\cancer\textcancer  
 21089 \let\leo\textleo  
 21090 \let\virgo\textvirgo  
 21091 \let\libra\textlibra  
 21092 \let\scorpio\textscorpio  
 21093 \let\sagittarius\textsagittarius  
 21094 \let\capricornus\textcapricornus  
 21095 \let\aquarius\textaquarius  
 21096 \let\pisces\textpisces  
 21097 \let\quaternote\textquaternote  
 21098 \let\twonotes\texttwonotes  
 21099 \let\sixteenthnote\textsixteenthnote  
 21100 \let\flat\textflat  
 21101 \let\natural\textnatural  
 21102 \let\sharp\textsharp  
 21103 \let\recycle\textrecycle  
 21104 \let\Wheelchair\textWheelchair  
 21105 \let\Flag\textFlag  
 21106 \let\MineSign\textMineSign  
 21107 \let\ds\textds  
 21108 \let\dsmedical\textdsmedical  
 21109 \let\dsjuridical\textdsjuridical  
 21110 \let\dschemical\textdschemical  
 21111 \let\dsbiological\textdsbiological  
 21112 \let\dscommercial\textdscommercial  
 21113 \let\manstar\textmanstar  
 21114 \let\danger\textdanger  
 21115 \let\FemaleFemale\textFemaleFemale  
 21116 \let\MaleMale\textMaleMale  
 21117 \let\FemaleMale\textFemaleMale  
 21118 \let\Hermaphrodite\textHermaphrodite  
 21119 \let\Neutral\textNeutral  
 21120 \let\hexstar\texthexstar  
 21121 \let\SunCloud\textSunCloud  
 21122 \let\Rain\textRain  
 21123 \let\noway\textnoway  
 21124 \let\Mountain\textMountain  
 21125 \let\Tent\textTent  
 21126 \let\ScissorRight\textScissorRight  
 21127 \let\ScissorRightBrokenTop\textScissorRightBrokenTop  
 21128 \let\ScissorHollowRight\textScissorHollowRight  
 21129 \let\PhoneHandset\textPhoneHandset  
 21130 \let\Tape\textTape  
 21131 \let\Plane\textPlane

21132 \let\Envelope\textEnvelope  
 21133 \let\Peace\textPeace  
 21134 \let\WritingHand\textWritingHand  
 21135 \let\PencilRightDown\textPencilRightDown  
 21136 \let\PencilRight\textPencilRight  
 21137 \let\PencilRightUp\textPencilRightUp  
 21138 \let\NibRight\textNibRight  
 21139 \let\NibSolidRight\textNibSolidRight  
 21140 \let\Checkmark\textCheckmark  
 21141 \let\CheckmarkBold\textCheckmarkBold  
 21142 \let\XSolid\textXSolid  
 21143 \let\XSolidBold\textXSolidBold  
 21144 \let\XSolidBrush\textXSolidBrush  
 21145 \let\PlusOutline\textPlusOutline  
 21146 \let\Plus\textPlus  
 21147 \let\PlusThinCenterOpen\textPlusThinCenterOpen  
 21148 \let\PlusCenterOpen\textPlusCenterOpen  
 21149 \let\Cross\textCross  
 21150 \let\CrossOpenShadow\textCrossOpenShadow  
 21151 \let\CrossOutline\textCrossOutline  
 21152 \let\CrossMaltese\textCrossMaltese  
 21153 \let\DavidStar\textDavidStar  
 21154 \let\FourAsterisk\textFourAsterisk  
 21155 \let\JackStar\textJackStar  
 21156 \let\JackStarBold\textJackStarBold  
 21157 \let\ClowerTips\textClowerTips  
 21158 \let\FourStar\textFourStar  
 21159 \let\FourStarOpen\textFourStarOpen  
 21160 \let\FiveStarOpenCircled\textFiveStarOpenCircled  
 21161 \let\FiveStarCenterOpen\textFiveStarCenterOpen  
 21162 \let\FiveStarOpenDotted\textFiveStarOpenDotted  
 21163 \let\FiveStarOutline\textFiveStarOutline  
 21164 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy  
 21165 \let\FiveStarConvex\textFiveStarConvex  
 21166 \let\FiveStarShadow\textFiveStarShadow  
 21167 \let\AsteriskBold\textAsteriskBold  
 21168 \let\AsteriskCenterOpen\textAsteriskCenterOpen  
 21169 \let\EightStarTaper\textEightStarTaper  
 21170 \let\EightStarConvex\textEightStarConvex  
 21171 \let\SixStar\textSixStar  
 21172 \let\EightStar\textEightStar  
 21173 \let\EightStarBold\textEightStarBold  
 21174 \let\TwelveStar\textTwelveStar  
 21175 \let\SixteenStarLight\textSixteenStarLight  
 21176 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved  
 21177 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter  
 21178 \let\Asterisk\textAsterisk  
 21179 \let\SixFlowerAlternate\textSixFlowerAlternate  
 21180 \let\FiveFlowerPetal\textFiveFlowerPetal  
 21181 \let\FiveFlowerOpen\textFiveFlowerOpen  
 21182 \let\EightFlowerPetal\textEightFlowerPetal  
 21183 \let\SunshineOpenCircled\textSunshineOpenCircled  
 21184 \let\SixFlowerAltPetal\textSixFlowerAltPetal  
 21185 \let\SnowflakeChevron\textSnowflakeChevron  
 21186 \let\Snowflake\textSnowflake  
 21187 \let\SnowflakeChevronBold\textSnowflakeChevronBold  
 21188 \let\Sparkle\textSparkle

21189 \let\SparkleBold\textSparkleBold  
 21190 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds  
 21191 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved  
 21192 \let\EightAsterisk\textEightAsterisk  
 21193 \let\CircleShadow\textCircleShadow  
 21194 \let\SquareShadowBottomRight\textSquareShadowBottomRight  
 21195 \let\SquareTopRight\textSquareTopRight  
 21196 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight  
 21197 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight  
 21198 \let\DiamandSolid\textDiamandSolid  
 21199 \let\RectangleThin\textRectangleThin  
 21200 \let\Rectangle\textRectangle  
 21201 \let\RectangleBold\textRectangleBold  
 21202 \let\perp\textperp  
 21203 \let\notperp\textnotperp  
 21204 \let\veedot\textveedot  
 21205 \let\wedgedot\textwedgedot  
 21206 \let\leftspoon\textleftspoon  
 21207 \let\lbrackdbl\textlbrackdbl  
 21208 \let\rbrackdbl\textrbrackdbl  
 21209 \let\circlearrowleft\textcirclearrowleft  
 21210 \let\circlearrowright\textcirclearrowright  
 21211 \let\longleftarrow\textlongleftarrow  
 21212 \let\longrightarrow\textlongrightarrow  
 21213 \let\longleftarrow\textlongleftarrow  
 21214 \let\Longleftarrow\textLongleftarrow  
 21215 \let\Longrightarrow\textLongrightarrow  
 21216 \let\Longleftarrow\textLongleftarrow  
 21217 \let\longmapsto\textlongmapsto  
 21218 \let\Longmapsfrom\textLongmapsfrom  
 21219 \let\Longmapsto\textLongmapsto  
 21220 \let\nwsearrow\textnwsearrow  
 21221 \let\neswarrow\textneswarrow  
 21222 \let\lhooknarrow\textlhooknarrow  
 21223 \let\rhooknarrow\texthooknarrow  
 21224 \let\lhooksearrow\texthooksearrow  
 21225 \let\rhooksearrow\texthooksearrow  
 21226 \let\leadsto\textleadsto  
 21227 \let\rcurvearrowne\textrcurvearrowne  
 21228 \let\lcurvearrowse\textlcurvearrowse  
 21229 \let\lcurvearrowsw\textlcurvearrowsw  
 21230 \let\rcurvearrowse\textrcurvearrowse  
 21231 \let\lcurvearrowdown\textlcurvearrowdown  
 21232 \let\rcurvearrowdown\textrcurvearrowdown  
 21233 \let\rcurvearrowleft\textrcurvearrowleft  
 21234 \let\rcurvearrowright\textrcurvearrowright  
 21235 \let\leftrightharpoon\textleftrightharpoon  
 21236 \let\rightleftharpoon\textrightleftharpoon  
 21237 \let\updownharpoonrightleft\textupdownharpoonrightleft  
 21238 \let\updownharpoonleftright\textupdownharpoonleftright  
 21239 \let\leftleftharpoons\textleftleftharpoons  
 21240 \let\upupharpoons\textupupharpoons  
 21241 \let\rightleftharpoons\textrightleftharpoons  
 21242 \let\downdownharpoons\textdowndownharpoons  
 21243 \let\leftbarharpoon\textleftbarharpoon  
 21244 \let\barleftharpoon\textbarleftharpoon  
 21245 \let\rightbarharpoon\textrightbarharpoon

21246 \let\barrightharpoon\textbarrightharpoon  
 21247 \let\updownharpoons\textupdownharpoons  
 21248 \let\downupharpoons\textdownupharpoons  
 21249 \let\moo\textmoo  
 21250 \let\llparenthesis\textllparenthesis  
 21251 \let\rrparenthesis\textrrparenthesis  
 21252 \let\invdiameter\textinvdiameter  
 21253 \let\obar\textobar  
 21254 \let\obslash\textobslash  
 21255 \let\obot\textobot  
 21256 \let\NoChemicalCleaning\textNoChemicalCleaning  
 21257 \let\olessthan\textolessthan  
 21258 \let\ogreaterthan\textogreaterthan  
 21259 \let\boxslash\textboxslash  
 21260 \let\boxbslash\textboxbslash  
 21261 \let\boxast\textboxast  
 21262 \let\boxcircle\textboxcircle  
 21263 \let\boxbox\textboxbox  
 21264 \let\Valve\textValve  
 21265 \let\multimapboth\textmultimapboth  
 21266 \let\shuffle\textshuffle  
 21267 \let\uplus\textuplus  
 21268 \let\bigdoublewedge\textbigdoublewedge  
 21269 \let\bigdoublevee\textbigdoublevee  
 21270 \let\Join\textJoin  
 21271 \let\fatsemi\textfatsemi  
 21272 \let\circplus\textcircplus  
 21273 \let\minusdot\textminusdot  
 21274 \let\dotimes\textdotimes  
 21275 \let\dtimes\textdtimes  
 21276 \let\odiv\textodiv  
 21277 \let\invneg\textinvneg  
 21278 \let\squdoublecap\textsqudoublecap  
 21279 \let\capdot\textcapdot  
 21280 \let\squdoublecup\textsqudoublecup  
 21281 \let\doublewedge\textdoublewedge  
 21282 \let\doublevee\textdoublevee  
 21283 \let\doublebarwedge\textdoublebarwedge  
 21284 \let\veedoublebar\textveedoublebar  
 21285 \let\eqdot\texteqdot  
 21286 \let\neqdot\textneqdot  
 21287 \let\coloncolonequals\textcoloncolonequals  
 21288 \let\leqslant\textleqslant  
 21289 \let\leqslant\textleqslant  
 21290 \let\geqslant\textgeqslant  
 21291 \let\geqslant\textgeqslant  
 21292 \let\lessapprox\textlessapprox  
 21293 \let\lessapprox\textlessapprox  
 21294 \let\gtrapprox\textgtrapprox  
 21295 \let\gtrapprox\textgtrapprox  
 21296 \let\lneq\textlneq  
 21297 \let\gneq\textgneq  
 21298 \let\lnapprox\textlnapprox  
 21299 \let\gnapprox\textgnapprox  
 21300 \let\lesseqgtr\textlesseqgtr  
 21301 \let\gtreqless\textgtreqless  
 21302 \let\eqslantless\texteqslantless

21303 \let\eqslantgtr\texteqslantgtr  
 21304 \let\leftslice\textleftslice  
 21305 \let\rightslice\textrightslice  
 21306 \let\preceq\textpreceq  
 21307 \let\npreceq\textnpreceq  
 21308 \let\succeq\textsucceq  
 21309 \let\nsucceq\textnsucceq  
 21310 \let\precneq\textprecneq  
 21311 \let\succneq\textsuccneq  
 21312 \let\preceqq\textpreceqq  
 21313 \let\npreceqq\textnpreceqq  
 21314 \let\succeqq\textsucceqq  
 21315 \let\nsucceqq\textnsucceqq  
 21316 \let\precneqq\textprecneqq  
 21317 \let\succneqq\textsuccneqq  
 21318 \let\precapprox\textprecapprox  
 21319 \let\nprecapprox\textnprecapprox  
 21320 \let\succapprox\textsuccapprox  
 21321 \let\nsuccapprox\textnsuccapprox  
 21322 \let\precnapprox\textprecnapprox  
 21323 \let\succnapprox\textsuccnapprox  
 21324 \let\subseteqq\textsubseteqq  
 21325 \let\nsubseteqq\textnsubseteqq  
 21326 \let\supseteqq\textsupseteqq  
 21327 \let\nsupseteqq\textnsupseteqq  
 21328 \let\dashV\textdashV  
 21329 \let\ndashV\textndashV  
 21330 \let\Dashv\textDashv  
 21331 \let\ndashv\textndashv  
 21332 \let\DashV\textDashV  
 21333 \let\ndashV\textndashV  
 21334 \let\downmodels\textdownmodels  
 21335 \let\ndownmodels\textndownmodels  
 21336 \let\upmodels\textupmodels  
 21337 \let\nupmodels\textnupmodels  
 21338 \let\upspoon\textupspoon  
 21339 \let\interleave\textinterleave  
 21340 \let\slash\textslash  
 21341 \let\pentagon\textpentagon  
 21342 \let\varhexagon\textvarhexagon  
 21343 \let\jinferior\textjinferior  
 21344 \let\slashdiv\textslashdiv  
 21345 \let\fivedots\textfivedots  
 21346 \let\oo\textoo  
 21347 \let\GaPa\textGaPa  
 21348 \let\HaPa\textHaPa  
 21349 \let\ViPa\textViPa  
 21350 \let\AcPa\textAcPa  
 21351 \let\SePa\textSePa  
 21352 \let\ZwPa\textZwPa  
 21353 \let\fullnote\textfullnote  
 21354 \let\halfnote\texthalfnote  
 21355 \let\Vier\textVier  
 21356 \let\Acht\textAcht  
 21357 \let\Sech\textSech  
 21358 \let\Zwdr\textZwdr  
 21359 \let\Mundus\textMundus

```

21360 \let\Moon\textMoon
21361 \let\ManFace\textManFace
21362 \let\WomanFace\textWomanFace
21363 \let\Fax\textFax
21364 \let\Fire\textFire
21365 \let\Bicycle\textBicycle
21366 \let\Gentsroom\textGentsroom
21367 \let\Ladiesroom\textLadiesroom
21368 \let\ccnc\textccnc
21369 \let\ccsa\textccsa
21370 \let\Info\textInfo
21371 \let\CESign\textCESign
21372 \let\neg\textneg
21373 \let\times\texttimes
21374 \let\div\textdiv
21375 \let\pm\textpm
21376 \let\cdot\textcdot
21377 }% \psdmapshortnames
21378 \newcommand*{\psdaliasnames}{%
21379 \let\epsdice\HyPsd@DieFace
21380 \let\fcdice\HyPsd@DieFace
21381 \let\MoonPha\HyPsd@MoonPha
21382 \let\mathdollar\textdollar
21383 \let\EyesDollar\textdollar
21384 \let\binampersand\textampersand
21385 \let\with\textampersand
21386 \let\mathunderscore\textunderscore
21387 \let\textvertline\textbar
21388 \let\mathsterling\textsterling
21389 \let\pounds\textsterling
21390 \let\brokenvert\textbrokenbar
21391 \let\mathsection\textsection
21392 \let\S\textsection
21393 \let\mathparagraph\textparagraph
21394 \let\MultiplicationDot\textperiodcentered
21395 \let\Squaredot\textperiodcentered
21396 \let\vartimes\textmultiply
21397 \let\MVMultiplication\textmultiply
21398 \let\eth\dh
21399 \let\crossd\textcrd
21400 \let\textbard\textcrd
21401 \let\bard\textcrd
21402 \let\textcrh\textthbar
21403 \let\crossh\textthbar
21404 \let\planck\textthbar
21405 \let\eng\ng
21406 \let\engma\ng
21407 \let\crossb\textcrb
21408 \let\textbarb\textcrb
21409 \let\barb\textcrb
21410 \let\Florin\textflorin
21411 \let\hv\texthvlig
21412 \let\hausak\textthk
21413 \let\crossnilambda\textcrlambda
21414 \let\barlambda\textcrlambda
21415 \let\lambdabar\textcrlambda
21416 \let\lambdaslash\textcrlambda

```

21417 \let\textnrleg\textPUnrleg  
 21418 \let\textpipevar\textpipe  
 21419 \let\textdoublepipevar\textdoublepipe  
 21420 \let\textdoublebarpipevar\textdoublebarpipe  
 21421 \let\textcrg\textgslash  
 21422 \let\textdblig\textPUdblig  
 21423 \let\textqplig\textPUqplig  
 21424 \let\textcentoldstyle\textslashc  
 21425 \let\textbarc\textslashc  
 21426 \let\inva\textturna  
 21427 \let\vara\textscripta  
 21428 \let\invscripta\textturnscripta  
 21429 \let\rotvara\textturnscripta  
 21430 \let\hookb\texthtb  
 21431 \let\hausab\texthtb  
 21432 \let\varopeno\textopeno  
 21433 \let\curlyc\textctc  
 21434 \let\taild\textrtaild  
 21435 \let\hookd\texthtd  
 21436 \let\hausad\texthtd  
 21437 \let\er\textrhookschwa  
 21438 \let\epsi\textniepsilon  
 21439 \let\hookrepsilon\texthookreepsilon  
 21440 \let\closedrepsilon\textclosedepsilon  
 21441 \let\barj\textbardotlessj  
 21442 \let\hookg\texthtg  
 21443 \let\varg\textscriptg  
 21444 \let\vod\textipagamma  
 21445 \let\invh\textturnh  
 21446 \let\udesc\textturnh  
 21447 \let\hookh\texthth  
 21448 \let\voicedh\texthth  
 21449 \let\hookheng\texththeng  
 21450 \let\ibar\textbari  
 21451 \let\vari\textniiota  
 21452 \let\tildel\texttilde  
 21453 \let\latfric\textbeltl  
 21454 \let\tail\textrtail  
 21455 \let\lz\textlyoghlig  
 21456 \let\invm\textturnm  
 21457 \let\rotm\textturnm  
 21458 \let\legm\textturnmrleg  
 21459 \let\labdentals\textltailm  
 21460 \let\emgma\textltailm  
 21461 \let\nj\textltailn  
 21462 \let\enya\textltailn  
 21463 \let\tailn\textrtailn  
 21464 \let\closedniomega\textcloseomega  
 21465 \let\varomega\textcloseomega  
 21466 \let\invr\textturnr  
 21467 \let\rotr\textturnr  
 21468 \let\invlegr\textturnlonglegr  
 21469 \let\tailinvr\textturnrrtail  
 21470 \let\legr\textlonglegr  
 21471 \let\tailr\textrtailr  
 21472 \let\flapr\textfishhookr  
 21473 \let\flap\textfishhookr



21474 \let\tails\textrtails  
 21475 \let\curlyesh\textctesh  
 21476 \let\clickt\textturnt  
 21477 \let\tailt\textrtailt  
 21478 \let\ubar\textbaru  
 21479 \let\rotOmega\textniupsilon  
 21480 \let\invv\textturnv  
 21481 \let\pwedge\textturnv  
 21482 \let\invw\textturnw  
 21483 \let\rotw\textturnw  
 21484 \let\invy\textturny  
 21485 \let\roty\textturny  
 21486 \let\tailz\textrtailz  
 21487 \let\curlyz\textctz  
 21488 \let\curlyyogh\textctyogh  
 21489 \let\ejective\textglotstop  
 21490 \let\glottal\textglotstop  
 21491 \let\reveject\textrevglotstop  
 21492 \let\clickc\textstretchc  
 21493 \let\textstretchcvar\textstretchc  
 21494 \let\clickb\textbullseye  
 21495 \let\textObullseye\textbullseye  
 21496 \let\textctjvar\textctj  
 21497 \let\textturnsck\textturnk  
 21498 \let\dz\textdzlig  
 21499 \let\tesh\textteshlig  
 21500 \let\digamma\textdigammagreek  
 21501 \let\hardsign\cyrhrdsn  
 21502 \let\softsign\cyrsoftsn  
 21503 \let\hebsin\hebshin  
 21504 \let\textsck\textPUscck  
 21505 \let\textscm\textPUscm  
 21506 \let\textscp\textPUscp  
 21507 \let\textrevscr\textPUrevscr  
 21508 \let\textrhooka\textPURhooka  
 21509 \let\textrhooke\textPURhooka  
 21510 \let\textrhookepsilon\textPURhookepsilon  
 21511 \let\textrhookopeno\textPURhookopeno  
 21512 \let\textdoublevertline\textbardbl  
 21513 \let\dag\textdagger  
 21514 \let\ddagger\textdaggerdbl  
 21515 \let\ddag\textdaggerdbl  
 21516 \let\mathellipsis\textellipsis  
 21517 \let\EurDig\texteuro  
 21518 \let\EURdig\texteuro  
 21519 \let\EurHv\texteuro  
 21520 \let\EURhv\texteuro  
 21521 \let\EurCr\texteuro  
 21522 \let\EURcr\texteuro  
 21523 \let\EurTm\texteuro  
 21524 \let\EURtm\texteuro  
 21525 \let\Eur\texteuro  
 21526 \let\Denarius\textDeleatur  
 21527 \let\agemO\textmho  
 21528 \let\EstimatedSign\textestimated  
 21529 \let\Ecommerce\textestimated  
 21530 \let\bindnasrepma\textinvamp

21531 `\let\parr\textinvamp`  
 21532 `\let\MVRightArrow\extrightarrow`  
 21533 `\let\MVRightarrow\rightarrow`  
 21534 `\let\MVArrowDown\textdownarrow`  
 21535 `\let\Force\textdownarrow`  
 21536 `\let\textglobrise\textnearrow`  
 21537 `\let\textglobfall\textsearrow`  
 21538 `\let\Lightning\textlightning`  
 21539 `\let\Conclusion\textrightarrow`  
 21540 `\let\dashedleftarrow\textdashleftarrow`  
 21541 `\let\dashedrightarrow\textdashrightarrow`  
 21542 `\let\varnothing\textemptyset`  
 21543 `\let\owns\textni`  
 21544 `\let\notni\textnotowner`  
 21545 `\let\varprop\textpropto`  
 21546 `\let\varangle\textsphericalangle`  
 21547 `\let\Anglesign\textsphericalangle`  
 21548 `\let\AngleSign\textsphericalangle`  
 21549 `\let\notdivides\textnmid`  
 21550 `\let\varowedge\textowedge`  
 21551 `\let\varovee\textovee`  
 21552 `\let\varint\textint`  
 21553 `\let\varoint\textoint`  
 21554 `\let\downtherefore\textbecause`  
 21555 `\let\textdotdiv\textdotminus`  
 21556 `\let\AC\textsim`  
 21557 `\let\wreath\textwr`  
 21558 `\let\nthickapprox\textnapprox`  
 21559 `\let\VHF\texttriplesim`  
 21560 `\let\notasymp\textnasyp`  
 21561 `\let\Doteq\textdoteqdot`  
 21562 `\let\corresponds\texthateq`  
 21563 `\let\Corresponds\texthateq`  
 21564 `\let\nequal\textneq`  
 21565 `\let\Congruent\textequiv`  
 21566 `\let\NotCongruent\textnequiv`  
 21567 `\let\notequiv\textnequiv`  
 21568 `\let\LessOrEqual\textleq`  
 21569 `\let\LargerOrEqual\textgeq`  
 21570 `\let\apprle\textlessim`  
 21571 `\let\apprge\textgtrsim`  
 21572 `\let\varoplus\textoplus`  
 21573 `\let\varominus\textominus`  
 21574 `\let\varotimes\textotimes`  
 21575 `\let\varoslash\textoslash`  
 21576 `\let\varodot\textodot`  
 21577 `\let\ocirc\textcircledcirc`  
 21578 `\let\varocircle\textcircledcirc`  
 21579 `\let\varoast\textcircledast`  
 21580 `\let\oasterisk\textcircledast`  
 21581 `\let\rightvdash\textvdash`  
 21582 `\let\leftvdash\textdashv`  
 21583 `\let\nleftvdash\textndashv`  
 21584 `\let\downvdash\texttop`  
 21585 `\let\upvdash\textbot`  
 21586 `\let\nperp\textnupvdash`  
 21587 `\let\models\textvDash`

21588 \let\rightmodels\textvDash  
 21589 \let\rightVdash\textVdash  
 21590 \let\rightModels\textVDash  
 21591 \let\trightvdash\textnvdash  
 21592 \let\trightmodels\textnvDash  
 21593 \let\trmodels\textnvDash  
 21594 \let\trightVdash\textnVdash  
 21595 \let\trightModels\textnVDash  
 21596 \let\lessclosed\textlhd  
 21597 \let\gtrclosed\textrhd  
 21598 \let\leqclosed\textunlhd  
 21599 \let\trianglelefteq\textunlhd  
 21600 \let\geqclosed\textunrhd  
 21601 \let\trianglerighteq\textunrhd  
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 21603 \let\varcurlyvee\textcurlyvee  
 21604 \let\varcurlywedge\textcurlywedge  
 21605 \let\doublecap\textCap  
 21606 \let\doublecup\textCup  
 21607 \let\varsqsubsetneq\textsqsubsetneq  
 21608 \let\varsqsupsetneq\textsqsupsetneq  
 21609 \let\lessclosed\textntriangleleft  
 21610 \let\ngtrclosed\textntriangleright  
 21611 \let\Clocklogo\textclock  
 21612 \let\ClockLogo\textclock  
 21613 \let\baro\textstmaryrdbaro  
 21614 \let\varparallelinv\textbbslash  
 21615 \let\CleaningA\textCircledA  
 21616 \let\Kutline\textCuttingLine  
 21617 \let\CutLine\textCuttingLine  
 21618 \let\Cutline\textCuttingLine  
 21619 \let\MoveUp\textUParrow  
 21620 \let\APLup\textbigtriangleup  
 21621 \let\Bleech\textbigtriangleup  
 21622 \let\MoveDown\textDOWNarrow  
 21623 \let\APLdown\textbigtriangledown  
 21624 \let\Diamond\textdiamond  
 21625 \let\varbigcirc\textbigcircle  
 21626 \let\Telefon\textPhone  
 21627 \let\Box\textboxempty  
 21628 \let\CheckedBox\textCheckedbox  
 21629 \let\XBox\textCrossedbox  
 21630 \let\CrossedBox\textCrossedbox  
 21631 \let\rightpointleft\textHandLeft  
 21632 \let\leftpointright\textHandRight  
 21633 \let\PointingHand\textHandRight  
 21634 \let\Pointinghand\textHandRight  
 21635 \let\Radiation\textRadioactivity  
 21636 \let\Yinyang\textYinYang  
 21637 \let\YingYang\textYinYang  
 21638 \let\Yingyang\textYinYang  
 21639 \let\Frowny\textfrownie  
 21640 \let\Smiley\textsmiley  
 21641 \let\Sun\textsun  
 21642 \let\Mercury\textmercury  
 21643 \let\textfemale\textPUfemale  
 21644 \let\female\textPUfemale

21645 \let\venus\textPUfemale  
 21646 \let\Venus\textPUfemale  
 21647 \let\Female\textPUfemale  
 21648 \let\Earth\textearth  
 21649 \let\mars\textmale  
 21650 \let\Mars\textmale  
 21651 \let\Male\textmale  
 21652 \let\Jupiter\textjupiter  
 21653 \let\Saturn\textsaturn  
 21654 \let\Uranus\texturanus  
 21655 \let\Neptune\textneptune  
 21656 \let\Pluto\textpluto  
 21657 \let\Aries\textaries  
 21658 \let\Taurus\texttaurus  
 21659 \let\Gemini\textgemini  
 21660 \let\Cancer\textcancer  
 21661 \let\Leo\textleo  
 21662 \let\Virgo\textvirgo  
 21663 \let\Libra\textlibra  
 21664 \let\Scorpio\textscorpio  
 21665 \let\Sagittarius\textsagittarius  
 21666 \let\Capricorn\textcapricornus  
 21667 \let\Aquarius\textaquarius  
 21668 \let\Pisces\textpisces  
 21669 \let\spadesuit\textspadesuitblack  
 21670 \let\Heart\textheartsuitwhite  
 21671 \let\heartsuit\textheartsuitwhite  
 21672 \let\diamondsuit\textdiamondsuitwhite  
 21673 \let\clubsuit\textclubsuitblack  
 21674 \let\eighthnote\textmusicalnote  
 21675 \let\Recycling\textrecycle  
 21676 \let\VarFlag\textFlag  
 21677 \let\textxswup\textdsmilitary  
 21678 \let\textuncrfemale\textPUuncrfemale  
 21679 \let\Football\textSoccerBall  
 21680 \let\CutLeft\textScissorRightBrokenBottom  
 21681 \let\Cutright\textScissorRightBrokenBottom  
 21682 \let\RightScissors\textScissorRight  
 21683 \let\Leftscissors\textScissorRight  
 21684 \let\Letter\textEnvelope  
 21685 \let\Writinghand\textWritingHand  
 21686 \let\checkmark\textCheckmark  
 21687 \let\DavidStar\textDavidStar  
 21688 \let\llbracket\textlbrackdbl  
 21689 \let\rrbracket\textrrbrackdbl  
 21690 \let\RightTorque\textlcurvearrowdown  
 21691 \let\Righttorque\textlcurvearrowdown  
 21692 \let\LeftTorque\textrcurvearrowdown  
 21693 \let\Lefttorque\textrcurvearrowdown  
 21694 \let\textvarobar\textobar  
 21695 \let\circledbslash\textobslash  
 21696 \let\obackslash\textobslash  
 21697 \let\varobslash\textobslash  
 21698 \let\odplus\textobot  
 21699 \let\varolessthan\textolessthan  
 21700 \let\varogreaterthan\textogreaterthan  
 21701 \let\divdot\textminusdot

```

21702 \let\doublesqcap\textsqdoublecap
21703 \let\doublesqcup\textsqdoublecup
21704 \let\merge\textdoublevee
21705 \let\leftVdash\textdashV
21706 \let\nleftVdash\textndashV
21707 \let\leftmodels\textDashv
21708 \let\nleftmodels\textnDashv
21709 \let\leftModels\textDashV
21710 \let\nleftModels\textnDashV
21711 \let\varparallel\textsslash
21712 \let\textheng\textPUheng
21713 \let\textlhookfour\textPUlhookfour
21714 \let\textscf\textPUscf
21715 \let\textaolig\textPUaolig
21716 \let\Ganz\textfullnote
21717 \let\Halb\texthalfnote
21718 \let\Womanface\textWomanFace
21719 \let\Faxmachine\textFax
21720 \let\CEsign\textCESign
21721 }% \psdaliasnames
21722 </psdextra>

```

## 52 End of file hyccheck.tex

```

21723 <*check>
21724 \typeout{}
21725 \begin{document}
21726 \end{document}
21727 </check>

```

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