

# 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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**52 End of file hycheck.tex**

**515**

### 3 File hyccheck.tex

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

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

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

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

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

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

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

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

`\HyC@checkPackage`

```
18 \def\HyC@checkPackage{%
19   \typeout{}%
20   \begingroup
21   \edef\x{\endgroup
22     \noexpand\RequirePackage{\HyC@package}%
23     \ifx\HyC@date\@empty\relax\else\HyC@date\fi%
24   }%
25   \x
26   \typeout{}%
27   \typeout{%
28     * Package '\HyC@package'%
29     \ifx\HyC@date\@empty
30     \else
31       \space\HyC@date
```



```

32 \fi
33 }%
34 \@ifundefined{ver@\HyC@package.sty}{%
35 }{%
36 \typeout{%
37 \space\space Loaded: '\HyC@package' %
38 \csname ver@\HyC@package.sty\endcsname
39 }%
40 }%
41 }

```

`\checkcommand` The macro `\checkcommand` parses the next tokens as a L<sup>A</sup>T<sub>E</sub>X definition and compares this definition with the current meaning of that command.

```

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

```

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

```

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

```

`\HyC@checkcommand` The optional star of L<sup>A</sup>T<sub>E</sub>X's definitions is parsed.

```

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

```

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

```

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

```

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}

```

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

```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

105 \def\HyC@nc@default[#1]{%
106   \HyC@Toks={{#1}}%

```

```

107 \edef\HyC@optcmd{%
108   \expandafter\noexpand
109   \csname\expandafter\string\HyC@@cmd\endcsname
110 }%
111 \expandafter\let\expandafter\HyC@org@optcmd\HyC@optcmd
112 \HyC@nc@noopt
113 }

```

`\HyC@DeclareRobustCommand` `\DeclareRobustCommand{\cmd}` makes the command `\cmd` robust, that then calls `\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 LuaTeX compatibility

Until a LuaTeX driver is written, load `luatex85` so that the `pdfTeX` driver continues to work with LuaTeX.

```

165 \ifx\directlua\@undefined\else
166 \RequirePackage{luatex85}
167 \fi

```

### 4.2 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`.

```

168 \begingroup
169 \@makeother\'%
170 \@makeother\=%

```

```

171 \edef\x{%
172   \edef\noexpand\x{%
173     \endgroup
174     \noexpand\toks@{%
175       \catcode 96=\noexpand\the\catcode'\noexpand'\relax
176       \catcode 61=\noexpand\the\catcode'\noexpand\=\relax
177     }%
178   }%
179   \noexpand\x
180 }%
181 \x
182 \@makeother\`
183 \@makeother\=

```

\Hy@SetCatcodes

```

184 \def\Hy@SetCatcodes{%
185   \@makeother\`%
186   \@makeother\=%
187   \catcode'\$=3 %
188   \catcode'\&=4 %
189   \catcode'\^=7 %
190   \catcode'\_ =8 %
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   \@makeother\- %
205   \@makeother\" %
206   \@makeother\' %
207 }

```

\Hy@RestoreCatcodes

```

208 \begingroup
209 \def\x#1{\catcode'\noexpand#1=\the\catcode'#1\relax}%
210 \xdef\Hy@RestoreCatcodes{%
211   \the\toks@
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 \x\-%
230 \x\"%
231 \x\'%
232 }%
233 \endgroup

```

```
234 \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.

```

235 \IfFileExists{hobsub-hyperref.sty}{%
236 \RequirePackage{hobsub-hyperref}[2011/01/30]%
237 }{}

238 \RequirePackage{ltxcmds}[2010/11/12]
239 \RequirePackage{ifpdf}[2006/02/20]
240 \RequirePackage{pdftexcmds}[2009/04/10]
241 \@ifpackagelater{pdftexcmds}{2010/11/04}{-}{-}{%
242 \ltx@ifundefined{pdfdraftmode}{%
243 \let\pdf@ifdraftmode\ltx@secondoftwo
244 }{%
245 \ifpdf
246 \def\pdf@ifdraftmode{%
247 \ifnum\pdfdraftmode=\ltx@one
248 \expandafter\ltx@firstoftwo
249 \else
250 \expandafter\ltx@secondoftwo
251 \fi
252 }%
253 \else
254 \let\pdf@ifdraftmode\ltx@secondoftwo
255 \fi
256 }%
257 }

258 \RequirePackage{infwarerr}[2010/04/08]
259 \RequirePackage{keyval}[1997/11/10]

```

```

260 \RequirePackage{kvsetkeys}[2007/09/29]
261 \RequirePackage{kvdefinekeys}[2011/04/07]
262 \RequirePackage{pdfescape}[2007/11/11]
263 \RequirePackage{ifvtex}
264 \RequirePackage{ifxetex}[2006/08/21]
265 \RequirePackage{hycolor}
266 \RequirePackage{letltxmacro}[2008/06/13]
267 \RequirePackage{auxhook}[2009/12/14]
268 \def\Hy@Error{\@PackageError{hyperref}}
269 \def\Hy@Warning{\@PackageWarning{hyperref}}
270 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
271 \def\Hy@Info{\@PackageInfo{hyperref}}
272 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
273 \def\Hy@Message#1{%
274   \GenericWarning{%
275     (hyperref)\@spaces\@spaces\@spaces
276   }{%
277     Package hyperref Message: #1\ltx@gobble
278   }%
279 }

```

### 4.3 Version check

\Hy@VersionChecked

```

280 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

281 \def\Hy@VersionCheck#1{%
282   \begingroup
283   \ltx@ifundefined{ver@hyperref.sty}{%
284     \Hy@Error{%
285       This should not happen!\MessageBreak
286       Missing hyperref version%
287     }\@ehd
288   }{%
289     \ltx@ifundefined{ver@#1}{%
290       \Hy@Error{%
291         This should not happen!\MessageBreak
292         Missing version of ‘#1’%
293       }\@ehd
294     }{%
295       \def\x##1##2##3{%
296         \expandafter\expandafter\expandafter\Hy@@VersionCheck
297         \expandafter\expandafter\expandafter##2%
298         \csname ver@##3\endcsname##1##1\@nil
299       }%
300       \x{ }\y{hyperref.sty}%
301       \x{ }\z{#1}%
302       \ifx\y\z

```

```

303     \else
304         \edef\A{#1}%
305         \edef\B{\HyOpt@CustomDriver.def}%
306         \ifx\A\B
307             \Hy@WarningNoLine{%
308                 Version mismatch (custom driver)!\MessageBreak
309                 * \y: hyperref.sty\MessageBreak
310                 * \z: \A
311             }%
312         \else
313             \Hy@Error{%
314                 Version mismatch!\MessageBreak
315                 * \y: hyperref.sty\MessageBreak
316                 * \z: \A
317             }\@ehd
318         \fi
319     \fi
320 }%
321 }%
322 \endgroup
323 \chardef\Hy@VersionChecked=1 %
324 }

```

\Hy@@VersionCheck

```

325 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%
326     \def#1{#2 #3}%
327 }

```

## 4.4 Checks with regular expressions

```

328 \ltx@ifundefined{pdfmatch}{%
329     \def\Hy@Match#1#2#3#4#5{%
330     }{%
331     \def\Hy@Match#1#2#3{%
332         \begingroup
333         \edef\~{\ltx@backslashchar\string~}%
334         \edef\.\{\ltx@backslashchar.}%
335         \edef\[\{\ltx@backslashchar[]}%
336         \edef\${\ltx@backslashchar$}%
337         \edef\(\{\ltx@backslashchar(}%
338         \edef\)\{\ltx@backslashchar)}%
339         \edef\|\{\ltx@backslashchar|}%
340         \edef\*\{\ltx@backslashchar*}%
341         \edef\+\{\ltx@backslashchar+}%
342         \edef\?\{\ltx@backslashchar?}%
343         \edef\{\{\ltx@backslashchar\ltx@leftbracechar}%
344         \edef\}\{\ltx@rightbracechar}%
345         \edef\{\{\ltx@backslashchar\ltx@backslashchar}%
346         \let\ \ltx@space
347         \ifcase\pdfmatch#2{#3}{#1} %

```



```

348 \endgroup
349 \expandafter\ltx@secondoftwo
350 \or
351 \endgroup
352 \expandafter\ltx@firstoftwo
353 \else
354 \Hy@Warning{%
355   Internal error: Wrong pattern!\MessageBreak
356   --> #3 <--\MessageBreak
357   Pattern check ignored%
358 }%
359 \endgroup
360 \expandafter\ltx@firstoftwo
361 \fi
362 }%
363 \ltx@ifpackagelater{ltxcmds}{2010/09/11}{-}{-}{%
364 \begingroup
365 \lccode'0='{ }\relax
366 \lowercase{\endgroup
367 \def\ltx@leftbracechar{0}%
368 }%
369 \begingroup
370 \lccode'0='{ }\relax
371 \lowercase{\endgroup
372 \def\ltx@rightbracechar{0}%
373 }%
374 }%
375 }

```

## 4.5 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`.

```

376 \@ifundefined{AfterBeginDocument}{%
377 \def\AfterBeginDocument{\AtBeginDocument}%
378 }{}%

```

`\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.

```

379 \def\Hy@AtBeginDocument{%
380 \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
381 }

```

`\Hy@AtEndOfPackage`

```
382 \def\Hy@AtEndOfPackage{%  
383   \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook  
384 }
```

`\Hy@AtBeginDocumentHook`

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

`\Hy@AtEndOfPackageHook`

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

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

```
387 \AtEndOfPackage{%  
388   \Hy@AtEndOfPackageHook  
389   \let\Hy@AtEndOfPackageHook\@undefined  
390   \AfterBeginDocument{%  
391     \Hy@AtBeginDocumentHook{}}%  
392   \let\Hy@AtBeginDocumentHook\@undefined  
393   }%  
394 }
```

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

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

## 4.6 Switches

```
396 \newif\ifHy@stoppedearly  
397 \newif\ifHy@typexml  
398 \newif\ifHy@activeanchor  
399 \newif\ifHy@backref  
400 \newif\ifHy@bookmarks  
401 \newif\ifHy@bookmarksnumbered  
402 \newif\ifHy@bookmarksopen  
403 \newif\ifHy@breaklinks  
404 \newif\ifHy@pdfcenterwindow  
405 \newif\ifHy@CJKbookmarks  
406 \newif\ifHy@colorlinks  
407 \newif\ifHy@destlabel  
408 \newif\ifHy@draft  
409 \let\Hy@finaltrue\Hy@draftfalse  
410 \let\Hy@finalfalse\Hy@drafttrue  
411 \newif\ifHy@pdfescapeform  
412 \newif\ifHy@hyperfigures  
413 \newif\ifHy@pdffitwindow  
414 \newif\ifHy@frenchlinks  
415 \newif\ifHy@hyperfootnotes  
416 \newif\ifHy@hyperindex
```

```

417 \newif\ifHy@hypertextnames
418 \newif\ifHy@implicit
419 \newif\ifHy@linktopage
420 \newif\ifHy@localanchorname
421 \newif\ifHy@pdfmenubar
422 \newif\ifHy@naturalnames
423 \newif\ifHy@nesting
424 \newif\ifHy@pdfnewwindowset
425 \newif\ifHy@pdfnewwindow
426 \newif\ifHy@ocgcolorlinks
427 \newif\ifHy@pageanchor
428 \newif\ifHy@pdfpagelabels
429 \newif\ifHy@pdfpagehidden
430 \newif\ifHy@pdfstring
431 \newif\ifHy@plainpages
432 \newif\ifHy@psize
433 \newif\ifHy@raiselinks
434 \newif\ifHy@seminarslides
435 \newif\ifHy@setpagesize
436 \newif\ifHy@texht
437 \newif\ifHy@psdextra
438 \newif\ifHy@pdftoolbar
439 \newif\ifHy@unicode
440 \newif\ifHy@pdfusetitle
441 \newif\ifHy@verbose
442 \let\Hy@debugtrue\Hy@verbostrue
443 \let\Hy@debugfalse\Hy@verbosefalse
444 \newif\ifHy@pdfwindowui
445 \newif\ifHy@pdfdisplaydoctitle
446 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

447 \Hy@backreffalse
448 \Hy@bookmarksnumberedfalse
449 \Hy@bookmarksopenfalse
450 \Hy@bookmarkstrue
451 \Hy@breaklinksfalse
452 \Hy@pdfcenterwindowfalse
453 \Hy@CJKbookmarksfalse
454 \Hy@destlabelfalse
455 \Hy@pdfescapeformfalse
456 \Hy@hyperfiguresfalse
457 \Hy@pdffitwindowfalse
458 \Hy@hyperfootnotesttrue
459 \Hy@hyperindextrue
460 \Hy@hypertextnamestrue
461 \Hy@implicittrue
462 \Hy@linktopagefalse
463 \Hy@localanchornamefalse
464 \Hy@pdfmenubartrue

```

```

465 \Hy@naturalnamesfalse
466 \Hy@nestingfalse
467 \Hy@pdfnewwindowsetfalse
468 \Hy@pdfnewwindowfalse
469 \Hy@pageanchortrue
470 \Hy@pdfpagelabelstrue
471 \Hy@pdfpagehiddenfalse
472 \Hy@pdfstringfalse
473 \Hy@plainpagesfalse
474 \Hy@raiselinksfalse
475 \Hy@setpagesizetrue
476 \Hy@texhtfalse
477 \Hy@psdextrafalse
478 \Hy@pdftoolbartrue
479 \Hy@typexmlfalse
480 \Hy@unicodfalse
481 \Hy@pdfusetitlefalse
482 \Hy@verbosefalse
483 \Hy@pdfwindowuitrue
484 \Hy@pdfdisplaydoctitlefalse
485 \Hy@pdfafalse

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

488 \newdimen\@linkdim
489 \let\Hy@driver\ltx@empty
490 \let\MaybeStopEarly\relax
491 \newcount\Hy@linkcounter
492 \newcount\Hy@pagecounter
493 \Hy@linkcounter0
494 \Hy@pagecounter0

```

### 5.1 Macros for recursions

```

495 \let\Hy@ReturnEnd\@empty
496 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
497 \long\def\Hy@ReturnAfterElseFiFiEnd#1\else#2\Hy@ReturnEnd{\fi\fi#1}

```

### 5.2 Babel's protection of shorthand characters

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

\Hy@safe@activesfalse

```

498 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
499 \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`

```
500 \begingroup\expandafter\expandafter\expandafter\endgroup
501 \expandafter\ifx\csname dimexpr\endcsname\relax
502   \def\hypercalcbpdef#1#2{%
503     \begingroup
504       \toks@{}%
505       \HyCal@scan#2\hypercalcbp\@nil
506     \expandafter\endgroup
507     \expandafter\def\expandafter#1\expandafter{\the\toks@}%
508   }%
509 \def\HyCal@scan#1\hypercalcbp#2\@nil{%
510   \toks@\expandafter{\the\toks@ #1}%
511   \ifx\#2\%
512     \else
513       \ltx@ReturnAfterFi{%
514         \HyCal@do#2\@nil
515       }%
516   \fi
```

```

517 }%
518 \def\HyCal@do#1#2\@nil{%
519 \@ifpackageloaded{calc}{}{}%
520 \Hy@Warning{%
521   For calculations \string\hypercalcbp\space needs\MessageBreak
522   package calc or e-TeX%
523 }%
524 }%
525 \setlength{\dimen@}{#1}%
526 \setlength{\dimen@}{0.99626401\dimen@}%
527 \edef\x{%
528   \toks@{%
529     \the\toks@
530     \strip@pt\dimen@
531   }%
532 }\x
533 \HyCal@scan#2\@nil
534 }%
535 \else
536 \def\hypercalcbp#1{%
537   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
538 }%
539 \def\hypercalcbpdef{\def}%
540 \fi

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

Naming convention: All internal commands that are only needed by `\pdfstringdef` are prefixed with `\HyPsd@`.

### 6.1 Description of PDF strings

The PDF specification defines several places to hold text strings (bookmark names, document information, text annotations, etc.). The PDF strings have following properties:

- They are surrounded by parentheses. The hexadecimal form is not supported.
- Like PostScript language strings they use the same escaping mechanism:
 

<code>\\</code>	the backslash itself
<code>\), \((</code>	unbalanced parentheses
<code>\n, \r, \t, \b, \f</code>	special white space escape sequences
<code>\ddd</code>	octal character code <code>ddd</code>
- Strings are stored either in `PDFDocEncoding`, which is a superset of `ISO-Latin1` and is compatible with Unicode with character codes below 256, or in Unicode.

## 6.2 Definition of `\pdfstringdef`

The central macro for dealing with PDF strings is `\pdfstringdef`. It defines a command `#1` to be the result of the conversion from the string in `#2` to a legal PDFDocEncoded string. Currently the definition is global, but this can be changed in the future.

Important: In  $\text{\TeX}$ 's view PDF strings are written to a file and are expanded only in its mouth. Stomach commands that cannot be expanded further aren't executed, they are written verbatim. But the PDF reader that reads such a string isn't a  $\text{\TeX}$  interpreter!

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

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

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

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

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

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

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

```
542 \begingroup
```

### 6.2.1 Preprocessing

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

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

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

```
543 \escapechar'\%
```

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

```
544 \edef\0{\string\0}%
545 \edef\1{\string\1}%
546 \edef\2{\string\2}%
547 \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.

```
548 \ifHy@unicode
549 \edef\8{\string\8}%
550 \edef\9{\string\9}%
551 \fontencoding{PU}%
552 \HyPsd@UTFviii
553 \def\ifpdfstringunicode##1##2{##1}%
554 \else
555 \fontencoding{PD1}%
556 \def\ifpdfstringunicode##1##2{##2}%
557 \fi
558 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
559 \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).

```
560 \@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).

```
561 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
562 \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.

```

563 \let{\}\textbraceleft
564 \let\}\textbraceright
565 \let\\\textbackslash
566 \let\#\textnumbersign
567 \let\$\textdollar
568 \let%\textpercent
569 \let\&\textampersand
570 % \let\~\textasciitilde
571 \let\_ \textunderscore
572 \let\P\textparagraph
573 \let\ldots\textellipsis
574 \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.

```

575 \def\{\pdfstringdefWarn\}%
576 \def\newline{\pdfstringdefWarn\newline}%

```

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

```

577 \def\TeX{\TeX}%
578 \def\LaTeX{\LaTeX}%
579 \def\LaTeXe{%
580   \LaTeX2%
581   \ifHy@unicode\textepsilon\else e\fi
582 }%
583 \def\eTeX{%
584   \ifHy@unicode\textepsilon\else e\fi
585   -\TeX%
586 }%
587 \def\SliTeX{\SliTeX}%
588 \def\MF{Metafont}%
589 \def\MP{Metapost}%

```

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

```

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

```

**Package pifont.**

```

634 \let\ding\HyPsd@ding

```

```

635 \let\Cube\HyPsd@DieFace
636 %* \HyPsd@DieFace -> \epsdice (epsdice)
637 %* \HyPsd@DieFace -> \fcdice (hhcount)

```

#### Environments.

```

638 \def\begin#1{\csname#1\endcsname}%
639 \def\end#1{\csname end#1\endcsname}%

```

#### Package color.

```

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

```

#### Upper- and lowercase.

```

641 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
642 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

643 \ifHy@psdextra
644 \ifHy@unicode
645 \csname psdmapshortnames\endcsname
646 \csname psdaliasnames\endcsname
647 \fi
648 \fi

```

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

```

649 \let\foreignlanguage\@secondoftwo
650 \let\textlatin\@firstofone
651 \ltx@ifundefined{language@group}{-}{-}%
652 \csname HyPsd@babel@\language@group\endcsname
653 }%
654 \HyPsd@GreekPatch
655 \HyPsd@SpanishPatch
656 \HyPsd@RussianPatch
657 \HyPsd@BabelPatch
658 \let\@safe@activetrue\relax
659 \let\@safe@activesfalse\relax

```

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

```

660 \let\cyr\relax

```

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

```

661 \let\es@roman\@Roman

```

**Package german.**

```
662 \let\glqq\textglqq
663 \let\grqq\textgrqq
664 \let\glq\textglq
665 \let\grq\textgrq
666 \let\flqq\textflqq
667 \let\frqq\textfrqq
668 \let\flq\textflq
669 \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}

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

**AMS classes.**

```
671 \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.

```
672 \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.

```
673 \let\label\@gobble
674 \let\index\@gobble
675 \let\glossary\@gobble
676 \let\href\HyPsd@href
677 \let\@mkboth\@gobbletwo
```

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

```
678 \let\ref\HyPsd@ref
679 \let\pageref\HyPsd@pageref
680 \let\nameref\HyPsd@nameref
681 \let\autoref\HyPsd@autoref
```

**Miscellaneous commands.**

```
682 \let\leavevmode\@empty
683 \let\mbox\@empty
```

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

```
684 \def\halign{\pdfstringdef\Warn\halign\@gobble}%
```

```

685 \let\ignorespaces\HyPsd@ignorespaces
686 \let\Hy@SectionAnchorHref\@gobble
687 \let\ensuremath\@firstofone

```

#### Patch for cjk bookmarks.

```

688 \HyPsd@CJKhook

```

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

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

```

689 \Hy@pdfstringtrue
690 \pdfstringdefPreHook

```

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

```

691 \HyPsd@LetUnexpandableSpace\space
692 \HyPsd@LetUnexpandableSpace\ %
693 \HyPsd@LetUnexpandableSpace-%
694 \HyPsd@LetUnexpandableSpace\nobreakspace

```

#### Package xspace.

```

695 \ltx@ifundefined{@xspace}{%
696   \let\xspace\HyPsd@ITALCORR
697 }{%
698   \let\xspace\HyPsd@XSPACE
699 }%
700 \let\/\HyPsd@ITALCORR
701 \let\bgroup\/%
702 \let\egroup\/%

```

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

```

703 \let\discretionary\@gobbletwo

```

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

```

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

```

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

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

```

704 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
705 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
706 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
707 \let\@protected@testopt\HyPsd@protected@testopt

```

Support for package 'xargs':

```

708 \let\@protected@testopt@xargs\HyPsd@protected@testopt

```

### 6.2.2 Expansion

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

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

**`\csname`:** First the string is expanded within a `\csname` and `\endcsname`. Then the command name is converted to characters with catcode 12 by `\string` and the first escape character removed by `\@gobble`. This method has the great *advantage* that stomach tokens that aren't allowed in PDF strings are detected by T<sub>E</sub>X and reported as errors in order to force the user to write correct things. So he 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. T<sub>E</sub>X provides no way to catch the error caused by `\csname` or allows to support the user with a descriptive error message. Therefore the experienced user had to enable this behaviour by an option `exactdef` in previous versions less or equal 6.50.

**`\edef`** This version uses this standard form for expansion. It is stronger than L<sup>A</sup>T<sub>E</sub>X's `\protected@edef`. So the font encoding mechanism works and the glyph commands are converted to the correct tokens for PDF strings with the definitions of the PD1 encoding. Because the protecting mechanism of L<sup>A</sup>T<sub>E</sub>X doesn't work within an `\edef`, there are situations thinkable where code can break. For example, assignments and definitions aren't performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old texts. Now there are possibilities to write code that gives correct PDF strings (see `\texorpdfstring`). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with `\csname`. However a PDF reader isn't T<sub>E</sub>X, so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning

for the user. As additional features xspace support is possible and grouping characters can be used without problems, because they are removed silently.

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

```

709 \begingroup
710 \let\GenericError\@gobblefour
711 \let\GenericWarning\@gobbletwo
712 \let\GenericInfo\@gobbletwo

```

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

```

713 \ifx\nofrenchguillemets\@undefined
714 \else
715 \nofrenchguillemets
716 \fi

```

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

```

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

```

### 6.2.3 Postprocessing

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

```

726 \ifx#1\@empty
727 \else

```

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

- T<sub>E</sub>X does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.

- An argument can be a single token or a group of many tokens. And within curly braces tokens aren't find by  $\TeX$ '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.

```

728 \HyPsd@ProtectSpaces#1%
729 \let\HyPsd@String\@empty
730 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
731 \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.

```

732 \let\HyPsd@SPACEOPTI\relax
733 {%
734 \let\HyPsd@String\@empty
735 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@end
736 \global\let#1\HyPsd@String
737 }%
738 \expandafter\HyPsd@RemoveMask\expandafter
739 |\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.

```

740 \expandafter
741 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
742 \let\HyPsd@String\@empty
743 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
744 \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.

```

745 \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.

```

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

```

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

```

758 \ifHy@unicode
759 \HyPsd@StringSubst{\)}{\80\051}#1%
760 \HyPsd@Subst){\80\051}#1%
761 \let\HyPsd@empty\relax
762 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname

```

```

763      {\HyPsd@empty\80\051}#1%
764  \else
765    \HyPsd@StringSubst{\}){\051}#1%
766    \HyPsd@Subst){\051}#1%
767    \let\HyPsd@empty\relax
768    \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
769  \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`.

```

770  \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
771  \ltx@ifundefined{@xspace}{%
772  }{%
773    \let\HyPsd@xspace\relax
774    \expandafter\HyPsd@Subst\expandafter
775    {\HyPsd@XSPACE}\HyPsd@xspace#1%
776    \let\HyPsd@xspace\HyPsd@doboxspace
777  }%
778  \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.

```

779  \HyPsd@Subst{---}\textemdash#1%
780  \HyPsd@Subst{--}\textendash#1%
781 %  \HyPsd@Subst{fi}\textfi#1%
782 %  \HyPsd@Subst{fl}\textfl#1%

```

```

783 \HyPsd@Subst{!'}\textexclamdown#1%
784 \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

785 \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.

```

786 \ifHy@unicode
787 \HyPsd@StringSubst\(\textparenleft#1%
788 \HyPsd@Subst\(\textparenleft#1%
789 \else
790 \HyPsd@StringSubst\({\050}#1%
791 \HyPsd@Subst({\050}#1%
792 \HyPsd@StringSubst{\050}{\string\{ }#1%
793 \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.

```

794 \ifHy@unicode
795 \edef\HyPsd@SPACEOPTI{\80\040}%
796 \else
797 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
798 \fi
799 \xdef#1{#1\@empty}%
800 \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.

```

801 \endgroup
802 \begingroup
803 \ifHy@unicode
804 \HyPsd@ConvertToUnicode#1%

```

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

```

805 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
806 \ltx@ifundefined{StringEncodingConvertTest}{%
807 }{%
808 \EdefUnescapeString\HyPsd@temp#1%
809 \ifxetex
810 \let\HyPsd@UnescapedString\HyPsd@temp

```

```

811      \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
812      {utf16be}{ascii-print}{%
813      \EdefEscapeString\HyPsd@temp\HyPsd@temp
814      \global\let#1\HyPsd@temp
815      \HyPsd@EscapeTeX#1%
816      \Hy@unicodedefalse
817      }{%
818      \HyPsd@ToBigChars#1%
819      }%
820      \else
821      \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
822      {utf16be}{pdfdoc}{%
823      \EdefEscapeString\HyPsd@temp\HyPsd@temp
824      \global\let#1\HyPsd@temp
825      \HyPsd@EscapeTeX#1%
826      \Hy@unicodedefalse
827      }{%}%
828      \fi
829      }%
830      \fi
831      \fi
832      \HyPsd@XeTeXBigCharsfalse

```

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

```

833      \pdfstringdefPostHook#1%
834      \endgroup
835      }

```

`\Hy@pdfstringdef`

```

836 \def\Hy@pdfstringdef#1#2{%
837   \pdfstringdef\Hy@gtemp{#2}%
838   \let#1\Hy@gtemp
839 }

```

## 6.3 Encodings

### 6.3.1 XeTeX

```

840 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
841 \catcode\z@=12 %
842 \ifxetex
843   \expandafter\@firstofone
844   \else
845     \let\HyPsd@XeTeXBigCharstrue\@empty
846     \let\HyPsd@XeTeXBigCharsfalse\@empty
847     \expandafter\@gobble
848   \fi
849   {%

```

```

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

```

```

900 \fi
901 \lowercase{%
902 \toks@\expandafter{%
903 \the\expandafter\toks@
904 \y
905 ^^@%
906 }%
907 }%
908 \fi
909 \x
910 }%
911 }
912 \Hy@temp

```

### 6.3.2 Workaround for package linguex

```

913 \@ifpackageloaded{linguex}{%
914 \let\HyLinguex@OrgB\b
915 \let\HyLinguex@OrgC\c
916 \let\HyLinguex@OrgD\d
917 \def\HyLinguex@Restore{%
918 \let\b\HyLinguex@OrgB
919 \let\c\HyLinguex@OrgC
920 \let\d\HyLinguex@OrgD
921 }%
922 \Hy@AtEndOfPackage{%
923 \pdfstringdefDisableCommands{%
924 \ltx@ifundefined{oldb}{\let\b\oldb}%
925 \ltx@ifundefined{oldc}{\let\c\oldc}%
926 \ltx@ifundefined{oldd}{\let\d\oldd}%
927 }%
928 }%
929 }{%
930 \let\HyLinguex@Restore\relax
931 }%

```

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

\Hy@SaveCatcodeSettings

```

932 \def\Hy@SaveCatcodeSettings#1{%
933 \expandafter\edef\csname Hy@cat@#1\endcsname{%
934 \endlinechar=\the\endlinechar\relax
935 \catcode32 \the\catcode32\relax % (space)
936 \catcode34 \the\catcode34\relax % "
937 \catcode35 \the\catcode35\relax % #
938 \catcode37 \the\catcode37\relax % (percent)
939 \catcode40 \the\catcode40\relax % (
940 \catcode41 \the\catcode41\relax % )
941 \catcode42 \the\catcode42\relax % *
942 \catcode46 \the\catcode46\relax % .
943 \catcode58 \the\catcode58\relax % :

```

```

944 \catcode60 \the\catcode60\relax % <
945 \catcode61 \the\catcode61\relax % =
946 \catcode62 \the\catcode62\relax % >
947 \catcode64 \the\catcode64\relax % @
948 \catcode91 \the\catcode91\relax % [
949 \catcode92 \the\catcode92\relax % \
950 \catcode93 \the\catcode93\relax % ]
951 \catcode123 \the\catcode123\relax % {
952 \catcode124 \the\catcode124\relax % |
953 \catcode125 \the\catcode125\relax % }
954 }%
955 \endlinechar=-1 %
956 \catcode32 10 % (space)
957 \catcode34 12 % "
958 \catcode35 6 % #
959 \catcode37 14 % (percent)
960 \catcode40 12 % (
961 \catcode41 12 % )
962 \catcode42 12 % *
963 \catcode46 12 % .
964 \catcode58 12 % :
965 \catcode60 12 % <
966 \catcode61 12 % =
967 \catcode62 12 % >
968 \catcode91 12 % [
969 \catcode92 0 % \
970 \catcode93 12 % ]
971 \catcode123 1 % {
972 \catcode124 12 % |
973 \catcode125 2 % }
974 \makeatletter
975 }

\Hy@RestoreCatcodeSettings

976 \def\Hy@RestoreCatcodeSettings#1{%
977 \csname Hy@cat@#1\endcsname
978 \expandafter\let\csname Hy@cat@#1\endcsname\relax
979 }

```

### 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.

```

980 \@ifundefined{T@PD1}{%

```

```

981 \Hy@SaveCatcodeSettings{pd1}%
982 \input{pd1enc.def}%
983 \Hy@RestoreCatcodeSettings{pd1}%
984 \HyLinguex@Restore
985 }{}
986 \DeclareFontFamily{PD1}{pdf}{}
987 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
988 \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`.

```

989 \def\HyPsd@LoadUnicode{%
990 \ifundefined{T@PU}{%
991 \Hy@SaveCatcodeSettings{pu}%
992 \input{puenc.def}%
993 \Hy@RestoreCatcodeSettings{pu}%
994 \HyLinguex@Restore
995 }{}%
996 \DeclareFontFamily{PU}{pdf}{}%
997 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
998 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
999 \HyPsd@LoadExtra
1000 \let\HyPsd@LoadUnicode\relax
1001 }

```

`\HyPsd@LoadExtra`

```

1002 \def\HyPsd@LoadExtra{%
1003 \ifHy@psdextra
1004 \ltx@iffileloaded{puenc.def}{%
1005 \Hy@SaveCatcodeSettings{psdextra}%
1006 \input{psdextra.def}%
1007 \Hy@RestoreCatcodeSettings{psdextra}%
1008 \let\HyPsd@LoadExtra\relax
1009 }{}%
1010 \fi
1011 }

```

## 6.4 Additional user commands

### 6.4.1 `\texorpdfstring`

`\texorpdfstring` While expanding the string in `\pdfstringdef` the switch `\ifHy@pdfstring` is set. This is used by the full expandable macro `\texorpdfstring`. It expects two ar-



guments, the first contains the string that will be set and processed by T<sub>E</sub>X's stomach, the second contains the replacement for PDF strings.

```

1012 \def\texorpdfstring{%
1013   \ifHy@pdfstring
1014   \expandafter\@secondoftwo
1015   \else
1016   \expandafter\@firstoftwo
1017   \fi
1018 }
```

#### 6.4.2 Hooks for `\pdfstringdef`

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

```

1019 \@ifundefined{pdfstringdefPreHook}{%
1020   \let\pdfstringdefPreHook\@empty
1021 }{}
1022 \@ifundefined{pdfstringdefPostHook}{%
1023   \let\pdfstringdefPostHook\@gobble
1024 }{}
```

`\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`.

```

1025 \def\pdfstringdefDisableCommands{%
1026   \begingroup
1027   \makeatletter
1028   \HyPsd@DisableCommands
1029 }
```

`\HyPsd@DisableCommands`

```

1030 \long\def\HyPsd@DisableCommands#1{%
1031   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
1032   \endgroup
1033 }
```

(Partial) fix for bug in frenchb.1df 2010/08/21 v2.5a that destroys `\pdfstringdefDisableCommands` after usage in `\AtBeginDocument`.

```

1034 \let\HyPsd@pdfstringdefDisableCommands\pdfstringdefDisableCommands
1035 \AtBeginDocument{%
1036   \@ifundefined{pdfstringdefDisableCommands}{%
1037     \let\pdfstringdefDisableCommands\HyPsd@pdfstringdefDisableCommands
1038   }{}%
1039 }
```

`\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`.

```

1040 \def\pdfstringdefWarn#1{%
1041   \expandafter\noexpand\csname<>-string#1\endcsname
1042 }
```

## 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.

```

1043 \begingroup
1044   \catcode0=12 %
1045   \def\x{\endgroup
1046     \def\HyPsd@ignorespaces{%
1047       \romannumeral\expandafter'\expandafter^^@%
1048       \romannumeral'^^@%
1049     }%
1050   }%
1051 \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`.

```

1052 \def\HyPsd@BabelPatch{%
1053   \let\HyOrg@languageshorthands\languageshorthands
1054   \let\languageshorthands\HyPsd@LanguageShorthands
1055 }
1056 \begingroup\expandafter\expandafter\expandafter\endgroup
1057 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
1058   \let\HyPsd@langshort@system\@empty
1059   \def\HyPsd@LanguageShorthands#1{%
1060     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
1061       \HyPsd@langshort@system
1062     \expandafter\@gobble
1063   \else
1064     \expandafter\@firstofone
1065   \fi
1066   {%
1067     \HyOrg@languageshorthands{#1}%
1068   }%
1069 }%
1070 \else
1071   \def\HyPsd@LanguageShorthands#1{%
1072     \ifnum\pdf@strcmp{#1}{system}=\z@
1073       \expandafter\@gobble
1074     \else
1075       \expandafter\@firstofone
1076     \fi
1077     {%
1078       \HyOrg@languageshorthands{#1}%
1079     }%
1080   }%
1081 \fi
1082 \def\Hy@temp{%
1083   \@ifpackageloaded{babel}{%
1084     \@ifpackagelater{babel}{2008/03/16}{%
1085       \let\Hy@temp\@empty
1086     }{%
1087       \def\HyPsd@BabelPatch{%
1088         \let\HyOrg@languageshorthands\languageshorthands
1089       }%
1090     }%
1091   }{}%
1092 }
1093 \Hy@temp
1094 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
1095 \newif\ifHy@next

```

Nothing to do for english.

```

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

```

```

1144 \declare@shorthand{russian}{"}|}{}%
1145 \declare@shorthand{russian}{"}~}{-}%
1146 }%
1147 }
1148 \ltx@ifundefined{slovene@sh@"}@sel}{-}{}%
1149 \def\HyPsd@babel@slovene{%
1150 \declare@shorthand{slovene}{"}|}{}%
1151 }%
1152 }

```

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

```

1153 \ltx@ifundefined{spanish@sh@>@sel}{-}{}%
1154 \def\HyPsd@babel@spanish{%
1155 \declare@shorthand{spanish}{<<}{\guillemotleft}%
1156 \declare@shorthand{spanish}{>>}{\guillemotright}%
1157 \declare@shorthand{spanish}{"}=}{-}%
1158 \declare@shorthand{spanish}{"}~}{-}%
1159 \declare@shorthand{spanish}{"}!}{\textexclamdown}%
1160 \declare@shorthand{spanish}{"}?}{\textquestiondown}%
1161 }%
1162 }
1163 \ltx@ifundefined{swedish@sh@"}@sel}{-}{}%
1164 \def\HyPsd@babel@swedish{%
1165 \declare@shorthand{swedish}{"}|}{}%
1166 \declare@shorthand{swedish}{"}~}{-}%
1167 }%
1168 }
1169 \ltx@ifundefined{ukrainian@sh@"}@sel}{-}{}%
1170 \def\HyPsd@babel@ukrainian{%
1171 \declare@shorthand{ukrainian}{"}|}{}%
1172 \declare@shorthand{ukrainian}{"}~}{-}%
1173 }%
1174 }
1175 \ltx@ifundefined{usorbian@sh@"}@sel}{-}{}%
1176 \def\HyPsd@babel@usorbian{%
1177 \declare@shorthand{usorbian}{"}f}{f}%
1178 \declare@shorthand{usorbian}{"}|}{}%
1179 }%
1180 }
1181 \ltx@ifundefined{greek@sh@\string~@sel}{-}{}%
1182 \let\HyPsd@GreekPatch\@empty
1183 }%
1184 \def\HyPsd@GreekPatch{%
1185 \let\greeknumeral\HyPsd@greeknumeral
1186 \let\Greeknnumeral\HyPsd@Greeknnumeral
1187 }%
1188 }
1189 \def\HyPsd@greeknumeral#1{%
1190 \HyPsd@GreekNum\@firstoftwo{#1}%
1191 }

```

```

1192 \def\HyPsd@Greeknatural#1{%
1193   \HyPsd@GreeNum\@secondoftwo{#1}%
1194 }
1195 \def\HyPsd@GreeNum#1#2{%
1196   \ifHy@unicode
1197     \ifnum#2<\@ne
1198       \@arabic{#2}%
1199     \else
1200       \ifnum#2<1000000 %
1201         \HyPsd@@GreeNum#1{#2}%
1202       \else
1203         \@arabic{#2}%
1204       \fi
1205     \fi
1206   \else
1207     \@arabic{#2}%
1208   \fi
1209 }
1210 \def\HyPsd@@GreeNum#1#2{%
1211   \ifnum#2<\@m
1212     \ifnum#2<10 %
1213       \expandafter\HyPsd@GreeNumI
1214       \expandafter\@gobble\expandafter#1\number#2%
1215     \else
1216       \ifnum#2<100 %
1217         \expandafter\HyPsd@GreeNumII
1218         \expandafter\@gobble\expandafter#1\number#2%
1219       \else
1220         \expandafter\HyPsd@GreeNumIII
1221         \expandafter\@gobble\expandafter#1\number#2%
1222       \fi
1223     \fi
1224   \ifnum#2>\z@
1225     \textnumeralsigngreek
1226   \fi
1227   \else
1228     \ifnum#2<\@M
1229       \expandafter\HyPsd@GreeNumIV\expandafter#1\number#2%
1230     \else
1231       \ifnum#2<100000 %
1232         \expandafter\HyPsd@GreeNumV\expandafter#1\number#2%
1233       \else
1234         \expandafter\HyPsd@GreeNumVI\expandafter#1\number#2%
1235       \fi
1236     \fi
1237   \fi
1238 }
1239 \def\HyPsd@GreeNumI#1#2#3{%
1240   #1{%
1241     \ifnum#3>\z@

```

```

1242     \textnumeralsignlowergreek
1243     \fi
1244 }%
1245 \expandafter#2%
1246 \ifcase#3 %
1247   {}{}%
1248 \or\textalpha\textAlpha
1249 \or\textbeta\textBeta
1250 \or\textgamma\textGamma
1251 \or\textdelta\textDelta
1252 \or\textepsilon\textEpsilon
1253 \or\textstigmagreek\textStigmagreek
1254 \or\textzeta\textZeta
1255 \or\texteta\textEta
1256 \or\texttheta\textTheta
1257 \else
1258   {}{}%
1259 \fi
1260 }
1261 \def\HyPsd@GreekNumII#1#2#3#4{%
1262   #1{%
1263     \ifnum#3>\z@
1264       \textnumeralsignlowergreek
1265       \fi
1266   }%
1267   \expandafter#2%
1268   \ifcase#3 %
1269     {}{}%
1270 \or\textiota\textIota
1271 \or\textkappa\textKappa
1272 \or\textlambda\textLambda
1273 \or\textmu\textMu
1274 \or\textnu\textNu
1275 \or\textxi\textXi
1276 \or\textomicron\textOmicron
1277 \or\textpi\textPi
1278 \or\textkoppagreek\textKoppagreek
1279 \else
1280   {}{}%
1281 \fi
1282 \HyPsd@GreekNumI#1#2#4%
1283 }
1284 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1285   #1{%
1286     \ifnum#3>\z@
1287       \textnumeralsignlowergreek
1288       \fi
1289   }%
1290   \expandafter#2%
1291   \ifcase#3 %

```

```

1292  {}{}%
1293  \or\textrho\textRho
1294  \or\textsigma\textSigma
1295  \or\texttau\textTau
1296  \or\textupsilon\textUpsilon
1297  \or\textphi\textPhi
1298  \or\textchi\textChi
1299  \or\textpsi\textPsi
1300  \or\textomega\textOmega
1301  \or\textsampgreek\textSampgreek
1302  \else
1303  {}{}%
1304  \fi
1305  \HyPsd@GreekNumII#1#2#4#5%
1306 }
1307 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1308   \HyPsd@GreekNumI\@firstofone#1#2%
1309   \HyPsd@@GreekNum#1{#3#4#5}%
1310 }
1311 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1312   \HyPsd@GreekNumII\@firstofone#1#2#3%
1313   \HyPsd@@GreekNum#1{#4#5#6}%
1314 }
1315 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1316   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1317   \HyPsd@@GreekNum#1{#5#6#7}%
1318 }
1319 \def\HyPsd@SpanishPatch{%
1320   \ltx@ifundefined{es@save@dot}{%
1321     }{%
1322       \let\.\es@save@dot
1323     }%
1324 }

```

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

```

1325 \def\HyPsd@RussianPatch{%
1326   \ltx@ifundefined{russian@sh@"@-@}{%
1327     }{%
1328       \@namedef{russian@sh@"@-@}{-}%
1329     }%
1330 }

```

### 6.5.3 CJK patch

```

1331 \RequirePackage{intcalc}[2007/09/27]

\HyPsd@CJKhook

1332 \def\HyPsd@CJKhook{%
1333   \ltx@ifpackageloaded{CJK}{%

```



```

1334 \let\CJK@kern\relax
1335 \let\CJKkern\relax
1336 \let\CJK@CJK\relax
1337 \ifHy@CJKbookmarks
1338   \HyPsd@CJKhook@bookmarks
1339 \fi
1340 \HyPsd@CJKhook@unicode
1341 }{}%
1342 }

```

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

```

1343 \begingroup
1344 \catcode"7F=\active
1345 \toks@{%
1346   \let\CJK@ignorespaces\empty
1347   \def\CJK@char#1{\@gobbletwo}%
1348   \let\CJK@charx\@gobblefour
1349   \let\CJK@punctchar\@gobblefour
1350   \def\CJK@punctcharx#1{\@gobblefour}%
1351   \catcode"7F=\active
1352   \def^^7f#1^^7f#2^^7f{%
1353     \string #1\HyPsd@DecimalToOctal{#2}%
1354   }%
1355   % ... ?
1356   \ifHy@unicode
1357     \def\Hy@cjkpu{\80}%
1358   \else
1359     \let\Hy@cjkpu\@empty
1360   \fi
1361   \HyPsd@CJKActiveChars
1362 }%
1363 \count@=127 %
1364 \@whilenum\count@<255 \do{%
1365   \advance\count@ by 1 %
1366   \lccode'\-=\count@
1367   \lowercase{%
1368     \toks@\expandafter{\the\toks@ ~}%
1369   }%
1370 }%

```

```

1371 \toks@\expandafter{\the\toks@ !}%
1372 \xdef\HyPsd@CJKhook@bookmarks{%
1373   \the\toks@
1374 }%
1375 \endgroup

```

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

```

1376 \def\HyPsd@CJKActiveChars#1{%
1377   \ifx#1!%
1378     \let\HyPsd@CJKActiveChars\relax
1379   \else
1380     \edef#1{\noexpand\Hy@cjku\string#1}%
1381   \fi
1382   \HyPsd@CJKActiveChars
1383 }

```

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

```

1384 \def\HyPsd@DecimalToOctal#1{%
1385   \ifcase #1 %
1386     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1387     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1388     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1389     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1390     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1391     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1392     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1393     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1394     \or @\or A\or B\or C\or D\or E\or F\or G%
1395     \or H\or I\or J\or K\or L\or M\or N\or O%
1396     \or P\or Q\or R\or S\or T\or U\or V\or W%
1397     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1398     \or \140\or a\or b\or c\or d\or e\or f\or g%
1399     \or h\or i\or j\or k\or l\or m\or n\or o%
1400     \or p\or q\or r\or s\or t\or u\or v\or w%
1401     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1402     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1403     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1404     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1405     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1406     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1407     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1408     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1409     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1410     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1411     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1412     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1413     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1414     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1415     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%

```

```

1416 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1417 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1418 \fi
1419 }

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1420 \def\HyPsd@CJKhook@unicode{%
1421 \let\Unicode\HyPsd@CJK@Unicode
1422 \let\CJKnumber\HyPsd@CJKnumber
1423 \let\CJKdigits\HyPsd@CJKdigits
1424 }

```

\HyPsd@CJK@Unicode

```

1425 \def\HyPsd@CJK@Unicode#1#2{%
1426 \ifnum#1<256 %
1427 \HyPsd@DecimalToOctalFirst{#1}%
1428 \HyPsd@DecimalToOctalSecond{#2}%
1429 \else
1430 \933%
1431 \expandafter\expandafter\expandafter\HyPsd@HighA
1432 \intcalcDiv{#1}{4}!%
1433 \933%
1434 \ifcase\intcalcMod{#1}{4} %
1435 4\or 5\or 6\or 7%
1436 \fi
1437 \HyPsd@DecimalToOctalSecond{#2}%
1438 \fi
1439 }

1440 \def\HyPsd@HighA#1!{%
1441 \expandafter\expandafter\expandafter\HyPsd@HighB
1442 \IntCalcDiv#1!64!!%
1443 \expandafter\expandafter\expandafter\HyPsd@HighD
1444 \IntCalcMod#1!64!!%
1445 }

1446 \def\HyPsd@HighB#1!{%
1447 \expandafter\expandafter\expandafter\HyPsd@HighC
1448 \IntCalcDec#1!!%
1449 }

1450 \def\HyPsd@HighC#1!{%
1451 \IntCalcDiv#1!4!%
1452 \@backslashchar
1453 \IntCalcMod#1!4!%
1454 }

1455 \def\HyPsd@HighD#1!{%
1456 \ifcase\IntCalcDiv#1!8! %
1457 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1458 \fi

```

```

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

```

```

1509 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1510 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1511 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1512 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1513 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1514 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1515 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1516 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1517 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1518 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1519 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1520 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1521 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1522 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1523 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1524 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1525 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1526 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1527 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1528 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1529 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1530 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1531 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1532 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1533 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1534 \fi
1535 }

1536 \def\HyPsd@CJKnumber#1{%
1537 \ifnum#1<\z@
1538 \CJK@minus
1539 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1540 \else
1541 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1542 \fi
1543 }

1544 \def\HyPsd@@CJKnumber#1{%
1545 \ifcase#1 %
1546 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1547 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1548 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1549 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1550 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1551 \CJK@ten\CJK@nine
1552 \else
1553 \ifnum#1<10000 %
1554 \HyPsd@CJKnumberFour#1!\@empty{20}%
1555 \@empty
1556 \else
1557 \ifnum#1<100000000 %

```

```

1558 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1559 \IntCalcDiv#1!10000!%
1560 !\CJK@{20}%
1561 \CJK@tenthousand
1562 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1563 \IntCalcMod#1!10000!%
1564 !\CJK@zero{10}%
1565 \@empty
1566 \else
1567 \expandafter\HyPsd@CJKnumberLarge
1568 \number\IntCalcDiv#1!100000000!\expandafter!%
1569 \number\IntCalcMod#1!100000000!!%
1570 \fi
1571 \fi
1572 \fi
1573 }
1574 \def\HyPsd@CJKnumberLarge#1!#2!{%
1575 \HyPsd@CJKnumberFour#1!\CJK@{20}%
1576 \CJK@hundredmillion
1577 \ifnum#2=\z@
1578 \else
1579 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1580 \IntCalcDiv#2!10000!%
1581 !\CJK@zero{10}%
1582 \CJK@tenthousand
1583 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1584 \IntCalcMod#2!10000!%
1585 !\CJK@zero{10}%
1586 \@empty
1587 \fi
1588 }
1589 \def\HyPsd@CJKnumberFour#1!#2#3{%
1590 \ifnum#1=\z@
1591 \expandafter\@gobble
1592 \else
1593 \ifnum#1<1000 %
1594 #2%
1595 \HyPsd@CJKnumberThree#1!\CJK@{#3}%
1596 \else
1597 \HyPsd@@@CJKnumber{\IntCalcDiv#1!1000!}%
1598 \CJK@thousand
1599 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1600 \IntCalcMod#1!1000!%
1601 !\CJK@zero{10}%
1602 \fi
1603 \fi
1604 }
1605 \def\HyPsd@CJKnumberThree#1!#2#3{%
1606 \ifnum#1=\z@
1607 \else

```

```

1608 \ifnum#1<100 %
1609   #2%
1610   \HyPsd@CJKnumberTwo#1!#{#3}%
1611 \else
1612   \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1613   \CJK@hundred
1614   \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1615   \IntCalcMod#1!100!%
1616   !\CJK@zero{10}%
1617 \fi
1618 \fi
1619 }
1620 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1621   \ifnum#1=\z@
1622   \else
1623     \ifnum#1<#3 %
1624       #2%
1625       \HyPsd@@CJKnumber{#1}%
1626     \else
1627       \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1628       \CJK@ten
1629       \ifnum\IntCalcMod#1!10!=\z@
1630       \else
1631         \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1632       \fi
1633     \fi
1634   \fi
1635 }
1636 \def\HyPsd@CJKdigits#1{%
1637   \ifx*#1\relax
1638     \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1639   \else
1640     \HyPsd@@CJKdigits\CJK@null{#1}%
1641   \fi
1642 }
1643 \def\HyPsd@@CJKdigits#1#2{%
1644   \ifx\#2\%
1645   \else
1646     \HyPsd@@@CJKdigits#1#2\@nil
1647   \fi
1648 }%
1649 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1650   \HyPsd@CJKdigit#1{#2}%
1651   \ifx\#3\%
1652     \expandafter\@gobble
1653   \else
1654     \expandafter\@firstofone
1655   \fi
1656   {%

```

```

1657 \HyPsd@@@CJKdigits#1#3\@nil
1658 }%
1659 }
1660 \def\HyPsd@CJKdigit#1#2{%
1661 \ifcase#2 %
1662 #1\or
1663 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1664 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1665 \fi
1666 }

```

### 6.5.6 \@inmathwarn-Patch

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

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

```

\def\@current@cmd#1{%
  \ifx\protect\@typesetprotect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changed@cmd#1#2{%
  \ifx\protect\@typesetprotect
    \@inmathwarn#1%
    \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
      \expandafter\ifx\csname ?\string#1\endcsname\relax
        \expandafter\def\csname ?\string#1\endcsname{%
          \TextSymbolUnavailable#1%
        }%
      \fi
      \global\expandafter\let
        \csname\cf@encoding\string#1\expandafter\endcsname
        \csname ?\string#1\endcsname
    \fi
    \csname\cf@encoding\string#1%
      \expandafter\endcsname
  \else
    \noexpand#1%
  \fi}
\gdef\TextSymbolUnavailable#1{%
  \@latex@error{%

```



```

Command \protect#1 unavailable in encoding \cf@encoding%
}\@eha}
\def\@inmathwarn#1{%
  \ifmmode
    \@latex@warning{Command \protect#1 invalid in math mode}%
  \fi}

1667 \def\HyPsd@inmathwarn#1#2{%
1668   \ifx#2\expandafter
1669     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1670       \HyPsd@GLYPHERR
1671     \expandafter\@gobble\string#1%
1672     >%
1673     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1674   \else
1675     \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1676   \fi
1677 \else
1678   \expandafter#2%
1679 \fi
1680 }
1681 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1682 \def\HyPsd@EndWithElse#1\else\else{}

```

\HyPsd@add@accent

```

1683 \def\HyPsd@add@accent#1#2{%
1684   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1685   #2%
1686 }%

```

### 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.

```

1687 \def\HyPsd@LetUnexpandableSpace#1{%
1688   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1689 }

```

\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.

```

1690 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

### 6.5.8 Marker for commands

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

```
1691 \edef\HyPsd@XSPACE{\string#\string X}
1692 \edef\HyPsd@ITALCORR{\string#\string I}
1693 \edef\HyPsd@GLYPHERR{\string#\string G}
```

### 6.5.9 `\hspace` fix

`\HyPsd@hspace`

```
1694 \def\HyPsd@hspace#1{\HyPsd@hspace#1*\END}
```

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

```
1695 \def\HyPsd@@hspace#1*#2\END{%
1696   \ifx\#2\%
1697     \HyPsd@hspacetest{#1}%
1698   \else
1699     \expandafter\HyPsd@hspacetest
1700   \fi
1701 }
```

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

```
1702 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

### 6.5.10 Fix for AMS classes

```
1703 \ltx@ifundefined{tocsection}{%
1704   \let\HyPsd@AMSclassfix\relax
1705 }{%
1706   \def\HyPsd@AMSclassfix{%
1707     \let\tocpart\HyPsd@tocsection
1708     \let\tocchapter\HyPsd@tocsection
1709     \let\tocappendix\HyPsd@tocsection
1710     \let\tocsection\HyPsd@tocsection
1711     \let\tocsubsection\HyPsd@tocsection
1712     \let\tocsubsubsection\HyPsd@tocsection
1713     \let\tocparagraph\HyPsd@tocsection
1714   }%
1715   \def\HyPsd@tocsection#1#2#3{%
1716     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1717     #3%
1718   }%
1719 }
```

### 6.5.11 Reference commands

`\HyPsd@href`

```
1720 \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.

```
1721 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1722 \def\HyPsd@@ref#1*#2\END{%
1723   \ifx\#2\%
1724     \HyPsd@@@ref{#1}%
1725   \else
1726     \expandafter\HyPsd@@@ref
1727   \fi
1728 }%
```

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

```
1729 \def\HyPsd@@@ref#1{%
1730   \expandafter\ifx\csname r@#1\endcsname\relax
1731     ??%
1732   \else
1733     \expandafter\expandafter\expandafter
1734     \@car\csname r@#1\endcsname\@nil
1735   \fi
1736 }
```

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

```
1737 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1738 \def\HyPsd@@pageref#1*#2\END{%
1739   \ifx\#2\%
1740     \HyPsd@@@pageref{#1}%
1741   \else
1742     \expandafter\HyPsd@@@pageref
1743   \fi
1744 }
```

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

```
1745 \def\HyPsd@@@pageref#1{%
1746   \expandafter\ifx\csname r@#1\endcsname\relax
1747     ??%
1748   \else
1749     \expandafter\expandafter\expandafter\expandafter
1750     \expandafter\expandafter\expandafter\@car
1751     \expandafter\expandafter\expandafter\@gobble
```

```

1752 \csname r@#1\endcsname{}\@nil
1753 \fi
1754 }

```

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

```

1755 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1756 \def\HyPsd@@nameref#1*#2\END{%
1757 \ifx\#2\%
1758 \HyPsd@@@nameref{#1}%
1759 \else
1760 \expandafter\HyPsd@@@nameref
1761 \fi
1762 }

```

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

```

1763 \def\HyPsd@@@nameref#1{%
1764 \expandafter\ifx\csname r@#1\endcsname\relax
1765 ??%
1766 \else
1767 \expandafter\expandafter\expandafter\expandafter
1768 \expandafter\expandafter\expandafter\@car
1769 \expandafter\expandafter\expandafter\@gobbletwo
1770 \csname r@#1\endcsname{}\}\@nil
1771 \fi
1772 }

```

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

```

1773 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1774 \def\HyPsd@@autoref#1*#2\END{%
1775 \ifx\#2\%
1776 \HyPsd@@@autoref{#1}%
1777 \else
1778 \expandafter\HyPsd@@@autoref
1779 \fi
1780 }

```

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

```

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

```

```

1787 \expandafter\expandafter\expandafter
1788 \@car\csname r@#1\endcsname\@nil
1789 \fi
1790 }

```

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

```

1791 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1792 \ifx\#4\%
1793 \else
1794 \HyPsd@@autorefname#4.\@nil
1795 \fi
1796 }

```

`\HyPsd@@autorefname`

```

1797 \def\HyPsd@@autorefname#1.#2\@nil{%
1798 \ltx@ifundefined{#1autorefname}{%
1799 \ltx@ifundefined{#1name}{%
1800 }{%
1801 \csname#1name\endcsname\space
1802 }%
1803 }{%
1804 \csname#1autorefname\endcsname\space
1805 }%
1806 }

```

### 6.5.12 Redefining the defining commands

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

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

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

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

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

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1807 \begingroup
1808 \def\x#1#2{%
1809 \endgroup
1810 \let#1\def
1811 \def\HyPsd@DefCommand##1##2###{%
1812 #1%
1813 \expandafter\noexpand
1814 \csname\expandafter\@gobble\string##1\@empty\endcsname
1815 \@gobble
1816 }%
1817 \let#2\let
1818 \def\HyPsd@@LetCommand##1{%
1819 \expandafter\ifx\csname##1\expandafter\endcsname
1820 \csname iftrue\endcsname
1821 \pdfstringdefWarn\let
1822 \expandafter\@gobble
1823 \else
1824 \expandafter\ifx\csname##1\expandafter\endcsname
1825 \csname iffalse\endcsname
1826 \pdfstringdefWarn\let
1827 \expandafter\expandafter\expandafter\@gobble
1828 \else
1829 #2%
1830 \expandafter\noexpand
1831 \csname##1\expandafter\expandafter\expandafter\endcsname
1832 \fi
1833 \fi
1834 }%
1835 }%
1836 \expandafter\x\csname <def>-command\expandafter\endcsname
1837 \csname <let>-command\endcsname
1838 \def\HyPsd@LetCommand#1{%
1839 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1840 \expandafter\expandafter\expandafter{%
1841 \expandafter\@gobble\string#1\@empty
1842 }%
1843 }

```

### 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).

```
1844 \def\HyPsd@ifnextchar#1{%
1845   \pdfstringdefWarn#1%
1846   \expandafter\@gobbletwo\@gobble
1847 }
```

### 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`.

```
1848 \def\HyPsd@protected@testopt#1{%
1849   \pdfstringdefWarn#1%
1850   \@gobbletwo
1851 }
```

## 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:

```
1852 \def\HyPsd@Warning#1{%
1853   \begingroup
1854   \let\space\ltx@space
1855   \Hy@Warning{#1}%
1856   \endgroup
1857 }
```

### 6.6.2 Protecting spaces

```
1858 \RequirePackage{etexcmds}[2007/09/09]
1859 \ifetex@unexpanded
1860   \expandafter\@secondoftwo
```

```

1861 \else
1862 \expandafter\@firstoftwo
1863 \fi
1864 {%

```

`\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`.

```

1865 \def\HyPsd@ProtectSpaces#1{%
1866 \iftrue
1867 \expandafter\HyPsd@@ProtectSpacesFi
1868 \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1869 \fi
1870}%

```

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

```

1871 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1872 \fi
1873 \ifx\scrollmode#2\scrollmode
1874 \HyPsd@RemoveMask#1\HyPsd@End#3%
1875 \else
1876 \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1877 \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1878 \fi
1879}%

```

### 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.

```

1880 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1881 \toks@\expandafter{#1}%
1882 \xdef#2{\the\toks@}%
1883}%

1884}%
1885 \let\HyPsd@fi\fi
1886 \def\HyPsd@ProtectSpaces#1{%
1887 \xdef#1{%
1888 \iftrue
1889 \expandafter\HyPsd@@ProtectSpacesFi
1890 \expandafter|\expandafter\@empty#1| %
1891 \HyPsd@fi
1892}%
1893 \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%

```



```

1894 }%
1895 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1896   \fi
1897   \etex@unexpanded{#1}%
1898   \ifx\scrollmode#2\scrollmode
1899   \else
1900     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1901   \HyPsd@fi
1902 }%
1903 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1904   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1905 }%
1906 }

```

### 6.6.3 Remove grouping braces

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

```

1907 \def\HyPsd@RemoveBraces#1{%
1908   \ifx\scrollmode#1\scrollmode
1909   \else
1910     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1911   \fi
1912 }

```

`\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`.

```

1913 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1914   \fi
1915   \def\Hy@temp@A{#1#2}%
1916   \def\Hy@temp@B{#3}%
1917   \ifx\Hy@temp@A\Hy@temp@B
1918     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1919       \HyPsd@String#1%
1920     }%
1921   \ifx\scrollmode#2\scrollmode
1922   \else
1923     \Hy@ReturnAfterFiFiEnd{%
1924       \HyPsd@RemoveBraces{#2}%
1925     }%

```

```

1926 \fi
1927 \else
1928 \def\Hy@temp@A{#1}%
1929 \HyPsd@AppendItalcorr\HyPsd@String
1930 \ifx\Hy@temp@A\@empty
1931 \Hy@ReturnAfterElseFiFiEnd{%
1932 \HyPsd@RemoveBraces{#2}%
1933 }%
1934 \else
1935 \HyPsd@ProtectSpaces\Hy@temp@A
1936 \HyPsd@AppendItalcorr\Hy@temp@A
1937 \Hy@ReturnAfterFiFiEnd{%
1938 \expandafter\HyPsd@RemoveBraces\expandafter
1939 {\Hy@temp@A#2}%
1940 }%
1941 \fi
1942 \fi
1943 \Hy@ReturnEnd
1944 }

```

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

```

1945 \def\HyPsd@AppendItalcorr#1{%
1946 \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1}%
1947 }
1948 \def\HyPsd@@AppendItalcorr#1#2{%
1949 \expandafter\def\expandafter#2\expandafter{#2#1}%
1950 }

```

#### 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>.

```

1951 \ltx@ifundefined{directlua}{%
1952 }{%
1953 \expandafter\ifx\csname\endcsname\relax\fi
1954 }

```

#### 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`.

```

1955 \begingroup
1956 \catcode'\Q=\active
1957 \let Q\ltx@empty
1958 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1959 \global\let\HyPsd@Rest\relax
1960 \ifcat\relax\noexpand#1\relax
1961 \ifx#1\protect
1962 \else
1963 \ifx#1\penalty
1964 \setbox\z@=\hbox{%
1965 \afterassignment\HyPsd@AfterCountRemove
1966 \count@=#2\HyPsd@End
1967 }%
1968 \else
1969 \ifx#1\kern
1970 \setbox\z@=\hbox{%
1971 \afterassignment\HyPsd@AfterDimenRemove
1972 \dimen@=#2\HyPsd@End
1973 }%
1974 \else
1975 \ifx#1\hskip
1976 \setbox\z@=\hbox{%
1977 \afterassignment\HyPsd@AfterSkipRemove
1978 \skip@=#2\HyPsd@End
1979 }%
1980 \else
1981 \HyPsd@CatcodeWarning{#1}%
1982 \fi
1983 \fi
1984 \fi
1985 \fi
1986 \else
1987 \ifcat\noexpand#1\noexpandQ% active character
1988 \expandafter\expandafter\expandafter\def
1989 \expandafter\expandafter\expandafter\HyPsd@String
1990 \expandafter\expandafter\expandafter{%
1991 \expandafter\HyPsd@String\string#1%
1992 }%
1993 \else
1994 \ifcat#1A% letter
1995 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1996 \HyPsd@String#1%
1997 }%
1998 \else

```

```

1999      \ifcat#1 % SPACE
2000      \expandafter\def\expandafter\HyPsd@String\expandafter{%
2001          \HyPsd@String\HyPsd@SPACEOPTI
2002      }%
2003      \else
2004      \ifcat$#1%
2005          \HyPsd@CatcodeWarning{math shift}%
2006      \else
2007      \ifcat&#1%
2008          \HyPsd@CatcodeWarning{alignment tab}%
2009      \else
2010      \ifcat^#1%
2011          \HyPsd@CatcodeWarning{superscript}%
2012      \else
2013      \ifcat_#1%
2014          \HyPsd@CatcodeWarning{subscript}%
2015      \else
2016      \expandafter\def\expandafter\HyPsd@String\expandafter{%
2017          \HyPsd@String#1%
2018      }%
2019      \fi
2020      \fi
2021      \fi
2022      \fi
2023      \fi
2024      \fi
2025      \fi
2026      \fi
2027      \ifx\HyPsd@Rest\relax
2028      \ifx\scrollmode#2\scrollmode
2029      \else
2030      \Hy@ReturnAfterFiFiEnd{%
2031      \HyPsd@CheckCatcodes#2\HyPsd@End
2032      }%
2033      \fi
2034      \else
2035      \ifx\HyPsd@Rest\@empty
2036      \else
2037      \Hy@ReturnAfterFiFiEnd{%
2038      \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
2039      }%
2040      \fi
2041      \fi
2042      \Hy@ReturnEnd
2043      }%
2044      \endgroup

```

Remove counts, dimens, skips.

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

```

2045 \def\HyPsd@AfterCountRemove#1\HyPsd@end{%
2046   \gdef\HyPsd@Rest{#1}%
2047 }

```

`\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.

```

2048 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
2049   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
2050     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
2051     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
2052   \else
2053     \ifdim\dimen@=\z@
2054     \else
2055       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
2056     \fi
2057   \gdef\HyPsd@Rest{#1}%
2058 \fi
2059 }

```

`\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).

```

2060 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
2061   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
2062     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
2063     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
2064   \else
2065     \ifdim\skip@=\z@
2066     \else
2067       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
2068     \fi
2069   \gdef\HyPsd@Rest{#1}%
2070 \fi
2071 }

```

### Catcode warnings.

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

```

2072 \def\HyPsd@CatcodeWarning#1{%
2073   \HyPsd@Warning{%
2074     Token not allowed in a PDF string (%
2075     \ifHy@unicode
2076       Unicode%
2077     \else
2078       PDFDocEncoding%
2079     \fi
2080   ):%

```

```

2081 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
2082 }%
2083 }
2084 \begingroup
2085 \catcode'\|=0 %
2086 \catcode'\|=12 %
2087 \gdef\HyPsd@RemoveCmdPrefix#1{%
2088   \expandafter\HyPsd@@RemoveCmdPrefix
2089   \string#1|\@empty\<>-|\@empty|\@empty
2090 }%
2091 \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|\@empty#3|\@empty{#1#2}%
2092 \endgroup

```

\HyPsd@RemoveSpaceWarning

```

2093 \def\HyPsd@RemoveSpaceWarning#1{%
2094   \HyPsd@Warning{%
2095     Token not allowed in a PDF string (%
2096     \ifHy@unicode
2097       Unicode%
2098     \else
2099       PDFDocEncoding%
2100     \fi
2101   ):%
2102   \MessageBreak #1\MessageBreak
2103   removed%
2104 }%
2105 }

```

\HyPsd@ReplaceSpaceWarning

```

2106 \def\HyPsd@ReplaceSpaceWarning#1{%
2107   \HyPsd@Warning{%
2108     Token not allowed in a PDF string (%
2109     \ifHy@unicode
2110       Unicode%
2111     \else
2112       PDFDocEncoding%
2113     \fi
2114   ):%
2115   \MessageBreak #1\MessageBreak
2116   replaced by space%
2117 }%
2118 }

```

### 6.6.5 Check for wrong glyphs

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

```

2119 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2120   \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

2121 \HyPsd@String#1%
2122 }%
2123 \ifx\\#2\\%
2124 \else
2125 \ltx@ReturnAfterFi{%
2126 \HyPsd@GlyphProcessWarning#2\@empty
2127 }%
2128 \fi
2129 }
2130 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2131 \HyPsd@@GlyphProcessWarning#1++>%
2132 \HyPsd@GlyphProcess#2\@empty
2133 }
2134 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
2135 \ifx\\#2\\%
2136 \HyPsd@Warning{%
2137 Glyph not defined in %
2138 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2139 removing '@backslashchar#1'%
2140 }%
2141 \else
2142 \HyPsd@Warning{%
2143 Composite letter '@backslashchar#1+#2'\MessageBreak
2144 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2145 \MessageBreak
2146 removing '@backslashchar#1'%
2147 }%
2148 \fi
2149 }

```

### 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`.

```

2150 \def\HyPsd@spaceopti#1{ % first space
2151 \ifx\HyPsd@spaceopti#1%
2152 \040%
2153 \else
2154 #1%
2155 \fi
2156 }%

```

### 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.

```

2157 \def\HyPsd@Subst#1#2#3{%
2158 \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
2159 \fi
2160 ##1%
2161 \ifx\scrollmode##2\scrollmode
2162 \else
2163 #2%
2164 \HyPsd@@ReplaceFi##2\END
2165 \fi
2166 }%
2167 \xdef#3{%
2168 \iftrue
2169 \expandafter\HyPsd@@ReplaceFi#3#1\END
2170 \fi
2171 }%
2172 }

```

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

```

2173 \def\HyPsd@StringSubst#1{%
2174 \expandafter\HyPsd@Subst\expandafter{\string#1}%
2175 }

```

`\HyPsd@EscapeTeX`

```

2176 \begingroup
2177 \lccode'\!='\%%
2178 \lccode'\|='\%%
2179 \lccode'\(=\{\%
2180 \lccode'\)=\}%
2181 \lccode'0=\ltx@zero
2182 \lccode'1=\ltx@zero
2183 \lccode'3=\ltx@zero
2184 \lccode'4=\ltx@zero
2185 \lccode'5=\ltx@zero
2186 \lccode'7=\ltx@zero
2187 \lowercase{\endgroup
2188 \def\HyPsd@EscapeTeX#1{%
2189 \HyPsd@Subst!{|045}#1%
2190 \HyPsd@Subst({|173}#1%
2191 \HyPsd@Subst){|175}#1%
2192 }%
2193 }

```



### 6.6.7 Support for package `xspace`

`\HyPsd@doxspace` `\xspace` does not work, because it uses a `\futurelet` that cannot be executed in  $\text{\TeX}$ '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.

```

2194 \def\HyPsd@doxspace#1{%
2195   \ifx#1\relax\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                 \ifx#1/\else
2203                   \ifx#1-\else
2204                     \ifx#1'\else
2205                       \HyPsd@SPACEOPTI
2206                     \fi
2207                   \fi
2208                 \fi
2209               \fi
2210             \fi
2211           \fi
2212         \fi
2213       \fi
2214     \fi
2215   \fi
2216   #1%
2217 }%
```

### 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.

```

2218 \begingroup
2219 \catcode'\|=0 %
2220 \catcode'\|=12 %
```

`\HyPsd@ConvertToUnicode`

```

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

```

2229     #1%
2230 }%
2231 |fi
2232 }%

```

\HyPsd@DoConvert

```

2233 |gdef|HyPsd@DoConvert#1{%
2234 |ifx#1|@empty
2235 |else
2236 |ltx@ReturnAfterFi{%
2237 |ifx#1\%%
2238 \%%
2239 |expandafter|HyPsd@DoEscape
2240 |else
2241 |HyPsd@Char{#1}%
2242 |expandafter|HyPsd@DoConvert
2243 |fi
2244 }%
2245 |fi
2246 }%

```

\HyPsd@DoEscape

```

2247 |gdef|HyPsd@DoEscape#1{%
2248 |ifx#19%
2249 |expandafter|HyPsd@GetTwoBytes
2250 |else
2251 |ltx@ReturnAfterFi{%
2252 |ifx#18%
2253 00%
2254 |expandafter|HyPsd@GetTwoBytes
2255 |else
2256 #1%
2257 |expandafter|HyPsd@GetOneByte
2258 |fi
2259 }%
2260 |fi
2261 }%

```

\HyPsd@GetTwoBytes

```

2262 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2263 #1\#2#3#4%
2264 |HyPsd@DoConvert
2265 }%

```

\HyPsd@GetOneByte

```

2266 |gdef|HyPsd@GetOneByte#1#2{%
2267 #1#2%
2268 |HyPsd@DoConvert
2269 }%
2270 |endgroup

```

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

```

2271 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2272   \xdef#4{#4#1#2}%
2273   \HyPsd@@ConvertToUnicode#3\END#4%
2274 }

```

`\HyPsd@Char`

```

2275 \begingroup
2276   \catcode0=9 %
2277   \catcode'\^=7 %
2278   \catcode'\^^=12 %
2279   \def\x{^^^0000}%
2280 \expandafter\endgroup
2281 \ifx\x\@empty
2282   \def\HyPsd@Char#1{%
2283     \ifnum'#1<128 %
2284       \@backslashchar 000#1%
2285     \else
2286       \ifnum'#1<65536 %
2287         \expandafter\HyPsd@CharTwoByte\number'#1!%
2288       \else
2289         \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2290         \intcalcSub{'#1}{65536}!%
2291       \fi
2292     \fi
2293   }%
2294   \def\HyPsd@CharTwoByte#1!{%
2295     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2296     \IntCalcDiv#1!256!!%
2297     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2298     \IntCalcMod#1!256!!%
2299   }%
2300   \def\HyPsd@CharOctByte#1!{%
2301     \@backslashchar
2302     \IntCalcDiv#1!64!%
2303     \intcalcDiv{\IntCalcMod#1!64!}{8}%
2304     \IntCalcMod#1!8!%
2305   }%
2306   \def\HyPsd@CharSurrogate#1!{%
2307     \@backslashchar 33%
2308     \IntCalcDiv#1!262144!%
2309     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2310     \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2311     \@backslashchar 33%
2312     \expandafter\expandafter\expandafter\IntCalcAdd
2313     \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2314     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2315     \IntCalcMod#1!256!!%

```

```

2316 }%
2317 \else
2318   \def\HyPsd@Char#1{%
2319     \@backslashchar 000#1%
2320   }%
2321 \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`

```

2322 \begingroup\expandafter\expandafter\expandafter\endgroup
2323 \expandafter\ifx\csname numexpr\endcsname\relax
2324   \let\HyPsd@UTFviii\relax
2325 \else
2326   \begingroup
2327     \lccode'\~='^f4\relax
2328   \lowercase{\endgroup
2329     \def\HyPsd@UTFviii{%
2330       \let\UTFviii@two@octets\HyPsd@UTFviii@two
2331       \let\UTFviii@three@octets\HyPsd@UTFviii@three
2332       \let\UTFviii@four@octets\HyPsd@UTFviii@four
2333       \ifx~\HyPsd@UTFviii@ccxliv@undef
2334         \let~\HyPsd@UTFviii@ccxliv@def
2335       \fi
2336       \let\unichar\HyPsd@unichar
2337     }%
2338   }%
2339   \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2340   \edef\HyPsd@UTFviii@ccxliv@def{%
2341     \noexpand\UTFviii@four@octets\string ^f4%
2342   }%

```

The two octet form of UTF-8 110aaabb (A) and 10ccddddd (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)

```

2343 \def\HyPsd@UTFviii@two#1#2{%
2344 \expandafter\HyPsd@UTFviii@@two
2345 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2346 \number'#1\expandafter| %
2347 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2348 \number'#2 \@nil
2349 }%
2350 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2351 \expandafter\8%
2352 \number\numexpr #1-48\expandafter\relax
2353 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2354 \number\numexpr #3-8*%
2355 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2356 \number\numexpr #4-8*#3\relax
2357 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2358 \def\HyPsd@UTFviii@three#1#2#3{%
2359 \expandafter\HyPsd@UTFviii@@three
2360 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2361 \number'#1\expandafter| %
2362 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2363 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2364 \number'#2\expandafter| %
2365 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2366 \number'#3 \@nil
2367 }%
2368 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2369 \expandafter\9%
2370 \number\numexpr #1-56\expandafter\relax
2371 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2372 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2373 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2374 \number\numexpr #6-16\expandafter\relax
2375 \number\numexpr #7-8*#6\relax
2376 }%

```

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
```

```
2377 \def\HyPsd@UTFviii@four#1#2{%
2378 \expandafter\HyPsd@@UTFviii@four\number
2379 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2380 \expandafter|\number
2381 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2382 }%
2383 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2384 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2385 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2386 \ifodd#2 %
2387 \number\numexpr(#2-1)/2\relax
2388 \else
2389 \number\numexpr#2/2\relax
2390 \fi
2391 \number\numexpr\ifodd#2 4+\fi
2392 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2393 \933%
2394 \expandafter\HyPsd@@@UTFviii@four\number
2395 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2396 }%
2397 \def\HyPsd@@@UTFviii@four#1|#2{%
2398 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2399 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2400 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2401 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2402 }%
```

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

```
2403 \def\HyPsd@unichar#1{%
2404 \ifHy@unicode
2405 \ifnum#1>"10FFFF %
2406 \HyPsd@UnicodeReplacementCharacter % illegal
2407 \else
2408 \ifnum#1>"FFFF %
```

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

```
2409 \expandafter\HyPsd@unichar\expandafter{%
2410 \number\numexpr 55296+%
2411 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2412 \relax\relax\relax
2413 }%
```

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

```
2414 \expandafter\HyPsd@unichar\expandafter{%
2415 \number\numexpr#1-9216%
2416 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2417 \relax\relax\relax
2418 }%
2419 \else
2420 \ifnum#1>"7FF %
2421 \9%
2422 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2423 \number
2424 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2425 }%
2426 \else
2427 \8%
2428 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2429 \fi
2430 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2431 \number
2432 \numexpr#1-256*\number
2433 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2434 }%
2435 \fi
2436 \fi
2437 \else
2438 .% unsupported (Unicode -> PDF Doc Encoding)
2439 \fi
2440 }%
2441 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2442 \def\HyPsd@unichar@first@byte#1{%
2443 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2444 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2445 \number
2446 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2447 \relax\relax\relax
2448 }%
2449 }%
2450 \def\HyPsd@unichar@second@byte#1{%
2451 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2452 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2453 \number
2454 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2455 \relax\relax\relax
2456 }%
2457 }%
2458 \def\HyPsd@unichar@octtwo#1{%
2459 \number\dimexpr.125\dimexpr#1sp\relax\relax
2460 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2461 \relax\relax\relax
```

```

2462 }%
2463 \fi

```

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

```

2464 \def\HyPsd@Utf@viii@undeferr#1#2#3#4#5#6{%
2465   \ifx\@gobble#1%
2466   \else
2467     [Please insert \textbackslash PrerenderUnicode%
2468     \textbraceleft#1\textbraceright\space
2469     into preamble]%
2470   \fi
2471 }%

```

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

`\HyPsd@DieFace` Die faces are provided by

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

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

```

2472 \def\HyPsd@DieFace#1{%
2473   \ifHy@unicode
2474   \ifnum#1<1 %
2475     \HyPsd@UnicodeReplacementCharacter
2476   \else
2477     \ifnum#1>6 %
2478       \9046\205%
2479       \expandafter\expandafter\expandafter
2480       \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2481     \else
2482       \9046\20\intcalcDec{#1}%
2483     \fi
2484   \fi
2485 \else
2486   .% Die faces are not part of PDFDocEncoding
2487 \fi
2488 }

```

`\HyPsd@DieFaceLarge`

```

2489 \def\HyPsd@DieFaceLarge#1!{%
2490   \ifnum#1>6 %
2491     \expandafter\ltx@firstoftwo
2492   \else
2493     \expandafter\ltx@secondoftwo

```



```

2494 \fi
2495 {%
2496 \9046\205%
2497 \expandafter\expandafter\expandafter
2498 \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2499 }{%
2500 \9046\20\IntCalcDec#1!%
2501 }%
2502 }

```

### 6.6.11 Support for moon phases of package china2e

```

2503 \def\HyPsd@MoonPha#1{%
2504 \ifcase\intcalcNum{#1} %
2505 \HyPsd@UnicodeReplacementCharacter
2506 \or % 1
2507 % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2508 \9330\074\9337\032%
2509 \or % 2
2510 \HyPsd@UnicodeReplacementCharacter
2511 \or % 3
2512 % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2513 \9330\074\9337\035%
2514 \or % 4
2515 % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2516 \9330\074\9337\034%
2517 \else
2518 \HyPsd@UnicodeReplacementCharacter
2519 \fi
2520 }
2521 %* \HyPsd@MoonPha -> \MoonPha

```

### 6.6.12 Support for package pifont

\HyPsd@ding

```

2522 \def\HyPsd@ding#1{%
2523 \ifHy@unicode
2524 \ifnum#1<32 %
2525 \HyPsd@UnicodeReplacementCharacter
2526 \else
2527 \ifnum#1>254 %
2528 \HyPsd@UnicodeReplacementCharacter
2529 \else
2530 \ifnum#1<127 %
2531 \expandafter\expandafter\expandafter
2532 \HyPsd@@ding\intcalcNum{#1}!%
2533 \else
2534 \ifnum#1>160 %
2535 \expandafter\expandafter\expandafter
2536 \HyPsd@@ding\intcalcNum{#1}!%

```

```

2537         \else
2538             \HyPsd@UnicodeReplacementCharacter
2539         \fi
2540     \fi
2541 \fi
2542 \fi
2543 \else
2544 .% Dingbats are not part of PDFDocEncoding
2545 \fi
2546 }

```

\HyPsd@@ding

```

2547 \def\HyPsd@@ding#1!{%
2548 \ltx@ifundefined{HyPsd@ding@#1}{%
2549     \ifnum#1<127 %
2550         \9047%
2551         \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2552     \else
2553         \ifnum#1<168 %
2554             \9047\14\IntCalcSub#1!160!%
2555         \else
2556             \ifnum#1>181 %
2557                 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2558             \else
2559                 % 172..181 -> U+2460..U+2469
2560                 \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2561             \fi
2562         \fi
2563     \fi
2564 }{%
2565     \csname HyPsd@ding@#1\endcsname
2566 }%
2567 }

2568 \@namedef{HyPsd@ding@32}{\space}
2569 % U+260E BLACK TELEPHONE
2570 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2571 % U+261B BLACK RIGHT POINTING INDEX
2572 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2573 % U+261E WHITE RIGHT POINTING INDEX
2574 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2575 % U+2605 BLACK STAR
2576 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2577 % U+25CF BLACK CIRCLE
2578 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2579 % U+25A0 BLACK SQUARE
2580 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2581 % U+25B2 BLACK UP-POINTING TRIANGLE
2582 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2583 % U+25BC BLACK DOWN-POINTING TRIANGLE

```

```

2584 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2585 % U+25C6 BLACK DIAMOND
2586 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2587 % U+25D7 RIGHT HALF BLACK CIRCLE
2588 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2589 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2590 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2591 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2592 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2593 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2594 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2595 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2596 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

## 7 Support of other packages

### 7.1 Class memoir

```

2597 \@ifclassloaded{memoir}{%
2598   \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}%
2599 }{}

```

### 7.2 Package subfigure

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

```

2600 \@ifpackageloaded{subfigure}{%
2601   \ltx@ifundefined{sub@label}{%
2602     \Hy@hypertextnamesfalse
2603   }{%
2604     \renewcommand*{\sub@label}[1]{%
2605       \@bsphack
2606       \subfig@oldlabel{#1}%
2607       \if@filesw
2608         \begingroup
2609         \edef\@currentlabstr{%
2610           \expandafter\strip@prefix\meaning\@currentlabelname
2611         }%
2612         \protected@write\@auxout{}{%
2613           \string\newlabel{sub@#1}{%
2614             {\@nameuse{\@thesub\@capttype}}%
2615             {\thepage}%
2616             {%
2617               \expandafter\strip@period\@currentlabstr
2618               \relax.\relax\@@@%
2619             }%
2620             {\@currentHref}%
2621             {}%
2622           }%
2623         }%

```

```

2624     \endgroup
2625     \fi
2626     \@esphack
2627 }%
2628 \@ifpackagelater{subfigure}{2002/03/26}{\}%
2629   \providecommand*{\toclevel@subfigure}{1}%
2630   \providecommand*{\toclevel@subtable}{1}%
2631 }%
2632 }%
2633 }{}

```

### 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:

```

2634 \ltx@ifundefined{XR@addURL}{\}%
2635 }{\%

```

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.

```

2636 \def\xr@addURL#1{\xr@dURL#1{}{}{}{}\}%
2637 \def\xr@dURL#1#2#3#4#5\{\%
2638   {#1}{#2}%
2639   \if!#4!%
2640   \else
2641     {#3}{#4}{\xr@URL}%
2642   \fi
2643 }%
2644 }

2645 \def\Hy@true{true}
2646 \def\Hy@false{false}

```

Providing dummy definitions.

```

2647 \let\literalps@out\@gobble
2648 \newcommand\pdfbookmark[3]{}{}
2649 \def\Acrobatmenu#1#2{\leavevmode#2}
2650 \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

```
2651 \let\HyperRaiseLinkHook\@empty
2652 \def\HyperRaiseLinkDefault{\baselineskip}
```

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

```
2653 \newcount\Hy@SavedSpaceFactor
2654 \def\Hy@SaveSpaceFactor{%
2655   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2656 }
2657 \def\Hy@RestoreSpaceFactor{%
2658   \relax
2659   \ifhmode
2660     \ifnum\Hy@SavedSpaceFactor>\z@
2661       \spacefactor=\Hy@SavedSpaceFactor
2662     \fi
2663   \fi
2664 }
2665 \def\Hy@SaveSavedSpaceFactor{%
2666   \edef\Hy@RestoreSavedSpaceFactor{%
2667     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2668   }%
2669 }
2670 \def\Hy@raisedlink#1{%
2671   \ifvmode
2672     #1%
2673   \else
2674     \Hy@SaveSpaceFactor
2675     \penalty\@M
2676     \smash{%
2677       \begingroup
2678         \let\HyperRaiseLinkLength\@tempdima
2679         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2680         \HyperRaiseLinkHook
2681         \expandafter\endgroup
2682         \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2683           \Hy@RestoreSpaceFactor
2684           #1%
2685           \Hy@SaveSpaceFactor
2686         }%
2687       }%
2688     \Hy@RestoreSpaceFactor
2689   \fi
2690 }
```

`\Hy@SaveLastskip` Inserting a `\special` command to set a destination destroys the `\lastskip` value.  
`\Hy@RestoreLastskip` 2691 \def\Hy@SaveLastskip{%

```

2692 \let\Hy@RestoreLastskip\relax
2693 \ifvmode
2694   \ifdim\lastskip=\z@
2695     \let\Hy@RestoreLastskip\nobreak
2696   \else
2697     \begingroup
2698     \skip@=-\lastskip
2699     \edef\x{%
2700       \endgroup
2701       \def\noexpand\Hy@RestoreLastskip{%
2702         \noexpand\ifvmode
2703         \noexpand\nobreak
2704         \vskip\the\skip@
2705         \vskip\the\lastskip\relax
2706       \noexpand\fi
2707     }%
2708   }%
2709   \x
2710 \fi
2711 \else
2712 \ifhmode
2713   \ifdim\lastskip=\z@
2714     \let\Hy@RestoreLastskip\nobreak
2715   \else
2716     \begingroup
2717     \skip@=-\lastskip
2718     \edef\x{%
2719       \endgroup
2720       \def\noexpand\Hy@RestoreLastskip{%
2721         \noexpand\ifhmode
2722         \noexpand\nobreak
2723         \hskip\the\skip@
2724         \hskip\the\lastskip\relax
2725       \noexpand\fi
2726     }%
2727   }%
2728   \x
2729 \fi
2730 \fi
2731 \fi
2732 }%

```

## 9 Options

```

2733 \SetupKeyvalOptions{%
2734   family=Hyp,%
2735   prefix=HyOpt%
2736 }

```

## 9.1 Help macros

`\IfHyperBooleanExists`

```

2737 \def\IfHyperBooleanExists#1{%
2738   \ltx@ifundefined{Hy@#1}{false}\ltx@secondoftwo{%
2739     \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2740   }%
2741 }

2742 \@namedef{KV@Hyp@stoppeearly@default}{}
```

`\IfHyperBoolean`

```

2743 \def\IfHyperBoolean#1{%
2744   \IfHyperBooleanExists{#1}{%
2745     \csname ifHy@#1\endcsname
2746     \expandafter\ltx@firstoftwo
2747   \else
2748     \expandafter\ltx@secondoftwo
2749   \fi
2750 } \ltx@secondoftwo
2751 }
```

`\Hy@boolkey`

```

2752 \def\Hy@boolkey#1#2{%
2753   \edef\Hy@tempa{#2}%
2754   \lowercase\expandafter{%
2755     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2756   }%
2757   \ifx\Hy@tempa\@empty
2758     \let\Hy@tempa\Hy@true
2759   \fi
2760   \ifx\Hy@tempa\Hy@true
2761   \else
2762     \ifx\Hy@tempa\Hy@false
2763     \else
2764       \let\Hy@tempa\relax
2765     \fi
2766   \fi
2767   \ifx\Hy@tempa\relax
2768     \Hy@WarnOptionValue{#2}{#1}{‘true’ or ‘false’}%
2769   \else
2770     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2771     \csname Hy@#1\Hy@tempa\endcsname
2772   \fi
2773 }
```

`\Hy@WarnOptionValue`

```

2774 \def\Hy@WarnOptionValue#1#2#3{%
2775   \Hy@Warning{%
2776     Unexpected value ‘#1’\MessageBreak
```

```

2777   of option ‘#2’ instead of\MessageBreak
2778   #3%
2779 }%
2780 }

```

\Hy@DisableOption

```

2781 \def\Hy@DisableOption#1{%
2782 \ltx@ifundefined{KV@Hyp@#1@default}{%
2783 \define@key{Hyp}{#1}%
2784 }{%
2785 \define@key{Hyp}{#1}[]%
2786 }%
2787 {\Hy@WarnOptionDisabled{#1}}%
2788 }

```

\Hy@WarnOptionDisabled

```

2789 \def\Hy@WarnOptionDisabled#1{%
2790 \Hy@Warning{%
2791 Option ‘#1’ has already been used,\MessageBreak
2792 setting the option has no effect%
2793 }%
2794 }

```

\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.

```

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

```



```

2818      * An empty value disables the option.\MessageBreak
2819      Unknown value '\x'%
2820    }%
2821  \fi
2822 \endgroup
2823 }

```

```

\Hy@DefNameKey #1: option name
#2: \do list with known values, first argument of \do is value, second argument
is a comment.
2824 \def\Hy@DefNameKey#1{%
2825   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2826 }

```

```

\Hy@@DefNameKey #1: macro for value storage
#2: option name
#3: \do list with known values.
2827 \def\Hy@@DefNameKey#1#2#3{%
2828   \define@key{Hyp}{#2}{%
2829     \edef#1{##1}%
2830     \ifx#1\@empty
2831       \else
2832         \Hy@CheckOptionValue{##1}{#2}{#3}%
2833       \fi
2834   }%
2835   \let#1\@empty
2836 }

```

```

\Hy@UseNameKey
2837 \def\Hy@UseNameKey#1#2{%
2838   \ifx#2\@empty
2839     \else
2840       /#1/#2%
2841     \fi
2842 }

```

## 9.2 Defining the options

```

2843 \define@key{Hyp}{implicit}[true]{%
2844   \Hy@boolkey{implicit}{#1}%
2845 }
2846 \define@key{Hyp}{draft}[true]{%
2847   \Hy@boolkey{draft}{#1}%
2848 }
2849 \define@key{Hyp}{final}[true]{%
2850   \Hy@boolkey{final}{#1}%
2851 }
2852 \let\KV@Hyp@nolinks\KV@Hyp@draft

```

```

2853 \def\Hy@ObsoletePaperOption#1{%
2854   \Hy@WarningNoLine{%
2855     Option ‘#1’ is no longer used%
2856   }%
2857   \define@key{Hyp}{#1}[true]{}%
2858 }
2859 \def\Hy@temp#1{%
2860   \define@key{Hyp}{#1}[true]{}%
2861   \Hy@ObsoletePaperOption{#1}%
2862   }%
2863 }
2864 \Hy@temp{a4paper}
2865 \Hy@temp{a5paper}
2866 \Hy@temp{b5paper}
2867 \Hy@temp{letterpaper}
2868 \Hy@temp{legalpaper}
2869 \Hy@temp{executivepaper}

2870 \define@key{Hyp}{setpagesize}[true]{}%
2871   \Hy@boolkey{setpagesize}{#1}%
2872 }
2873 \define@key{Hyp}{debug}[true]{}%
2874   \Hy@boolkey{debug}{#1}%
2875 }
2876 \define@key{Hyp}{linktocpage}[true]{}%
2877   \Hy@boolkey{linktocpage}{#1}%
2878   \ifHy@linktocpage
2879     \let\Hy@linktoc\Hy@linktoc@page
2880   \else
2881     \let\Hy@linktoc\Hy@linktoc@section
2882   \fi
2883 }
2884 \chardef\Hy@linktoc@none=0 %
2885 \chardef\Hy@linktoc@section=1 %
2886 \chardef\Hy@linktoc@page=2 %
2887 \chardef\Hy@linktoc@all=3 %
2888 \ifHy@linktocpage
2889   \let\Hy@linktoc\Hy@linktoc@page
2890 \else
2891   \let\Hy@linktoc\Hy@linktoc@section
2892 \fi
2893 \define@key{Hyp}{linktoc}{}%
2894   \@ifundefined{Hy@linktoc@#1}{}%
2895   \Hy@Warning{%
2896     Unexpected value ‘#1’ of\MessageBreak
2897     option ‘linktoc’ instead of ‘none’,\MessageBreak
2898     ‘section’, ‘page’ or ‘all’%
2899   }%
2900 }{}%
2901   \expandafter\let\expandafter\Hy@linktoc

```

```

2902 \csname Hy@linktoc@#1\endcsname
2903 }%
2904 }
2905 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2906 \let\XR@ext\relax
2907 \define@key{Hyp}{verbose}[true]{%
2908 \Hy@boolkey{verbose}{#1}%
2909 }
2910 \define@key{Hyp}{typexml}[true]{%
2911 \Hy@boolkey{typexml}{#1}%
2912 }

```

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.

```

2913 \define@key{Hyp}{raiselinks}[true]{%
2914 \Hy@boolkey{raiselinks}{#1}%
2915 }

```

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

```

2916 \def\Hy@setbreaklinks#1{%
2917 \csname breaklinks#1\endcsname
2918 }
2919 \def\Hy@breaklinks@unsupported{%
2920 \ifx\Hy@setbreaklinks@gobble
2921 \ifHy@breaklinks
2922 \Hy@WarningNoLine{%
2923 You have enabled option 'breaklinks'.\MessageBreak
2924 But driver '\Hy@driver.def' does not support this.\MessageBreak
2925 Expect trouble with the link areas of broken links%
2926 }%
2927 \fi
2928 \fi
2929 }
2930 \define@key{Hyp}{breaklinks}[true]{%
2931 \Hy@boolkey{breaklinks}{#1}%
2932 \let\Hy@setbreaklinks@gobble
2933 }
2934 \define@key{Hyp}{localanchorname}[true]{%
2935 \Hy@boolkey{localanchorname}{#1}%
2936 }

```

Determines whether an automatic anchor is put on each page

```

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

```

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.

```

2940 \define@key{Hyp}{plainpages}[true]{%

```

```

2941 \Hy@boolkey{plainpages}{#1}%
2942 }

```

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

```

2943 \define@key{Hyp}{naturalnames}[true]{%
2944 \Hy@boolkey{naturalnames}{#1}%
2945 }

```

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

```

2946 \define@key{Hyp}{hypertextnames}[true]{%
2947 \Hy@boolkey{hypertextnames}{#1}%
2948 }

```

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

```

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

```

```

2952 \define@key{Hyp}{destlabel}[true]{%
2953 \Hy@boolkey{destlabel}{#1}%
2954 }

```

```

2955 \define@key{Hyp}{unicode}[true]{%
2956 \Hy@boolkey{unicode}{#1}%
2957 \ifHy@unicode
2958 \def\HyPsd@pdfencoding{unicode}%
2959 \HyPsd@LoadUnicode
2960 \else
2961 \def\HyPsd@pdfencoding{pdfdoc}%
2962 \fi
2963 }
2964 \Hy@AtBeginDocument{%
2965 \ifx\HyPsd@LoadUnicode\relax
2966 \else
2967 \def\HyPsd@LoadUnicode{%
2968 \Hy@Error{%
2969 Unicode support for bookmarks is not available.\MessageBreak
2970 Activate unicode support by using one of the options\MessageBreak
2971 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2972 in the preamble%
2973 }\@ehc
2974 \global\let\HyPsd@LoadUnicode\relax
2975 \global\Hy@unicodedefalse
2976 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2977 }%
2978 \fi
2979 }
2980 \define@key{Hyp}{pdfencoding}{%
2981 \edef\HyPsd@temp{#1}%

```

```

2982 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2983 \let\HyPsd@pdfencoding\HyPsd@temp
2984 \Hy@unicodedefalse
2985 \else
2986 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2987 \z@
2988 \else
2989 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2990 \z@
2991 \else
2992 \@ne
2993 \fi
2994 \fi
2995 \let\HyPsd@pdfencoding\HyPsd@temp
2996 \hypersetup{unicode}%
2997 \ifHy@unicode
2998 \def\HyPsd@pdfencoding{#1}%
2999 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
3000 \HyPsd@LoadStringEnc
3001 \fi
3002 \else
3003 \Hy@Warning{Cannot switch to unicode bookmarks}%
3004 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
3005 \fi
3006 \else
3007 \@onelevel@sanitize\HyPsd@temp
3008 \Hy@Warning{%
3009 Values of option 'pdfencoding':\MessageBreak
3010 'pdfdoc', 'unicode', 'auto'.\MessageBreak
3011 Ignoring unknown value '\HyPsd@temp'%
3012 }%
3013 \fi
3014 \fi
3015 }
3016 \def\HyPsd@pdfencoding@auto{auto}
3017 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
3018 \def\HyPsd@pdfencoding@unicode{unicode}
3019 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
3020 \def\HyPsd@LoadStringEnc{%
3021 \RequirePackage{stringenc}[2009/12/15]%
3022 \let\HyPsd@LoadStringEnc\relax
3023 }
3024 \Hy@AtBeginDocument{%
3025 \@ifpackageloaded{stringenc}{%
3026 \let\HyPsd@LoadStringEnc\relax
3027 }{%
3028 \def\HyPsd@LoadStringEnc{%
3029 \Hy@WarningNoLine{%
3030 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
3031 in the preamble or load the package there%

```

```

3032 }%
3033 }%
3034 }%
3035 }

3036 \define@key{Hyp}{psdextra}[true]{%
3037 \Hy@boolkey{psdextra}{#1}%
3038 \HyPsd@LoadExtra
3039 }

3040 \def\hypersetup{\kvsetkeys{Hyp}}

3041 \newif\ifHy@setpdfversion
3042 \define@key{Hyp}{pdfversion}{%
3043 \@ifundefined{Hy@pdfversion@#1}{%
3044 \PackageWarning{hyperref}{%
3045   Unsupported PDF version '#1'.\MessageBreak
3046   Valid values: 1.2 until 1.9%
3047 }%
3048 }{%
3049 \Hy@setpdfversiontrue
3050 \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
3051 }%
3052 }
3053 \@namedef{Hy@pdfversion@1.2}{2}%
3054 \@namedef{Hy@pdfversion@1.3}{3}%
3055 \@namedef{Hy@pdfversion@1.4}{4}%
3056 \@namedef{Hy@pdfversion@1.5}{5}%
3057 \@namedef{Hy@pdfversion@1.6}{6}%
3058 \@namedef{Hy@pdfversion@1.7}{7}%
3059 \@namedef{Hy@pdfversion@1.8}{8}%
3060 \@namedef{Hy@pdfversion@1.9}{9}%
3061 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

3062 \newif\ifHy@DviMode
3063 \let\Hy@DviErrMsg\ltx@empty
3064 \ifpdf
3065 \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
3066 \else
3067 \ifxetex
3068 \def\Hy@DviErrMsg{XeTeX is running}%
3069 \else
3070 \ifvtex
3071 \ifvtexdvi
3072 \Hy@DviModetrue
3073 \else
3074 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
3075 \fi
3076 \else
3077 \Hy@DviModetrue

```

```

3078 \fi
3079 \fi
3080 \fi
3081 \def\HyOpt@CheckDvi#1{%
3082 \ifHy@DviMode
3083 \expandafter\ltx@firstofone
3084 \else
3085 \Hy@Error{%
3086   Wrong DVI mode driver option ‘#1’,\MessageBreak
3087   because \Hy@DviErrMsg
3088 } \@ehc
3089 \expandafter\ltx@gobble
3090 \fi
3091 }

3092 \DeclareVoidOption{tex4ht}{%
3093 \Hy@texhttrue
3094 \kvsetkeys{Hyp}{colorlinks=true}%
3095 \def\BeforeTeXIVht{\RequirePackage{color}}%
3096 \def\Hy@driver{htex4ht}%
3097 \def\MaybeStopEarly{%
3098 \Hy@Message{Stopped early}%
3099 \Hy@AtBeginDocument{%
3100 \PDF@FinishDoc
3101 \gdef\PDF@FinishDoc{}}%
3102 }%
3103 \endinput
3104 }%
3105 }

3106 \DeclareVoidOption{pdftex}{%
3107 \ifpdf
3108 \def\Hy@driver{hpdftex}%
3109 \else
3110 \Hy@Error{%
3111   Wrong driver option ‘pdftex’,\MessageBreak
3112   because pdfTeX in PDF mode is not detected%
3113 } \@ehc
3114 \fi
3115 }

3116 \DeclareVoidOption{nativepdf}{%
3117 \HyOpt@CheckDvi{nativepdf}{%
3118 \def\Hy@driver{hdvips}%
3119 }%
3120 }

3121 \DeclareVoidOption{dvipdfm}{%
3122 \HyOpt@CheckDvi{dvipdfm}{%
3123 \def\Hy@driver{hdvipdfm}%
3124 }%
3125 }

3126 \DeclareVoidOption{dvipdfmx}{%

```

```

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

```



```

3177     }%
3178     \endinput
3179 }%
3180 \else
3181   \Hy@Error{%
3182     Wrong driver option 'vtex',\MessageBreak
3183     because of wrong OpMode (\the\OpMode)%
3184   }\@ehc
3185 \fi
3186 \fi
3187 \else
3188   \Hy@Error{%
3189     Wrong driver option 'vtex',\MessageBreak
3190     because VTeX is not running%
3191   }\@ehc
3192 \fi
3193 }
3194 \DeclareVoidOption{vtexpdfmark}{%
3195   \ifvtex
3196     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3197     \def\Hy@driver{hvtexmrk}%
3198   \else
3199     \Hy@Error{%
3200       Wrong driver option 'vtexpdfmark',\MessageBreak
3201       because of wrong OpMode (\the\OpMode)%
3202     }\@ehc
3203   \fi
3204 \else
3205   \Hy@Error{%
3206     Wrong driver option 'vtexpdfmark,\MessageBreak
3207     because VTeX is not running%
3208   }\@ehc
3209 \fi
3210 }
3211 \DeclareVoidOption{dviwindo}{%
3212   \HyOpt@CheckDvi{dviwindo}{%
3213     \def\Hy@driver{hdviwind}%
3214     \kvsetkeys{Hyp}{colorlinks}%
3215     \PassOptionsToPackage{dviwindo}{color}%
3216   }%
3217 }
3218 \DeclareVoidOption{dvipsone}{%
3219   \HyOpt@CheckDvi{dvipsone}{%
3220     \def\Hy@driver{hdvipson}%
3221   }%
3222 }
3223 \DeclareVoidOption{textures}{%
3224   \HyOpt@CheckDvi{textures}{%
3225     \def\Hy@driver{htexture}%
3226   }%

```

```

3227 }
3228 \DeclareVoidOption{latex2html}{%
3229   \HyOpt@CheckDvi{latex2html}{%
3230     \Hy@AtBeginDocument{\@@latextohtmlX}%
3231   }%
3232 }

No more special treatment for ps2pdf. Let it sink or swim.
3233 \DeclareVoidOption{ps2pdf}{%
3234   \HyOpt@CheckDvi{ps2pdf}{%
3235     \def\Hy@driver{hdvips}%
3236   }%
3237 }

3238 \let\HyOpt@DriverFallback\ltx@empty
3239 \define@key{Hyp}{driverfallback}{%
3240   \ifHy@DviMode
3241     \def\HyOpt@DriverFallback{#1}%
3242     \Hy@Match\HyOpt@DriverFallback{}{%
3243       ^(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3244       latex2html|tex4ht)$%
3245     }{}{%
3246       \Hy@Warning{%
3247         Invalid driver '#1' for option\MessageBreak
3248         'driverfallback'%
3249       }%
3250       \let\HyOpt@DriverFallback\ltx@empty
3251     }%
3252   \fi
3253 }

3254 \let\HyOpt@CustomDriver\ltx@empty
3255 \define@key{Hyp}{customdriver}{%
3256   \IfFileExists{#1.def}{%
3257     \def\HyOpt@CustomDriver{#1}%
3258   }{%
3259     \Hy@Warning{%
3260       Missing driver file '#1.def',\MessageBreak
3261       ignoring custom driver%
3262     }%
3263   }%
3264 }

```

## 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.

```

3265 \define@key{Hyp}{hyperfigures}[true]{%
3266   \Hy@boolkey{hyperfigures}{#1}%
3267 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3268 \define@key{Hyp}{hyperfootnotes}[true]{%
3269 \Hy@boolkey{hyperfootnotes}{#1}%
3270 }

Set up back-referencing to be hyper links, by page, slide or section number,
3271 \def\back@none{none}
3272 \def\back@section{section}
3273 \def\back@page{page}
3274 \def\back@slide{slide}
3275 \define@key{Hyp}{backref}[section]{%
3276 \lowercase{\def\Hy@tempa{#1}}%
3277 \ifx\Hy@tempa\@empty
3278 \let\Hy@tempa\back@section
3279 \fi
3280 \ifx\Hy@tempa\Hy@false
3281 \let\Hy@tempa\back@none
3282 \fi
3283 \ifx\Hy@tempa\back@slide
3284 \let\Hy@tempa\back@section
3285 \fi
3286 \ifx\Hy@tempa\back@page
3287 \PassOptionsToPackage{hyperpageref}{backref}%
3288 \Hy@backreftrue
3289 \else
3290 \ifx\Hy@tempa\back@section
3291 \PassOptionsToPackage{hyperref}{backref}%
3292 \Hy@backreftrue
3293 \else
3294 \ifx\Hy@tempa\back@none
3295 \Hy@backreffalse
3296 \else
3297 \Hy@WarnOptionValue{#1}{backref}{%
3298 'section', 'slide', 'page', 'none',\MessageBreak
3299 or 'false'}%
3300 \fi
3301 \fi
3302 \fi
3303 }
3304 \define@key{Hyp}{pagebackref}[true]{%
3305 \edef\Hy@tempa{#1}%
3306 \lowercase\expandafter{%
3307 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3308 }%
3309 \ifx\Hy@tempa\@empty
3310 \let\Hy@tempa\Hy@true
3311 \fi
3312 \ifx\Hy@tempa\Hy@true
3313 \PassOptionsToPackage{hyperpageref}{backref}%
3314 \Hy@backreftrue
3315 \else

```

```

3316 \ifx\Hy@tempa\Hy>false
3317 \Hy@backreffalse
3318 \else
3319 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
3320 \fi
3321 \fi
3322 }

```

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

```

3323 \define@key{Hyp}{hyperindex}[true]{%
3324 \Hy@boolkey{hyperindex}{#1}%
3325 }

```

Configuration of encap char.

```

3326 \define@key{Hyp}{encap}[|]{%
3327 \def\HyInd@EncapChar{#1}%
3328 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

3329 \def\HyLang@afrikaans{%
3330 \def\equationautorefname{Vergelyking}%
3331 \def\footnoteautorefname{Voetnota}%
3332 \def\itemautorefname{Item}%
3333 \def\figureautorefname{Figuur}%
3334 \def\tableautorefname{Tabel}%
3335 \def\partautorefname{Deel}%
3336 \def\appendixautorefname{Bylae}%
3337 \def\chapterautorefname{Hoofstuk}%
3338 \def\sectionautorefname{Afdeling}%
3339 \def\subsectionautorefname{Subafdeling}%
3340 \def\subsubsectionautorefname{Subsubafdeling}%
3341 \def\paragraphautorefname{Paragraaf}%
3342 \def\subparagraphautorefname{Subparagraaf}%
3343 \def\FancyVerbLineautorefname{Lyn}%
3344 \def\theoremautorefname{Teorema}%
3345 \def\pageautorefname{Bladsy}%
3346 }
3347 \def\HyLang@english{%
3348 \def\equationautorefname{Equation}%
3349 \def\footnoteautorefname{footnote}%
3350 \def\itemautorefname{item}%
3351 \def\figureautorefname{Figure}%
3352 \def\tableautorefname{Table}%
3353 \def\partautorefname{Part}%
3354 \def\appendixautorefname{Appendix}%
3355 \def\chapterautorefname{chapter}%

```

```

3356 \def\sectionautorefname{section}%
3357 \def\subsectionautorefname{subsection}%
3358 \def\subsubsectionautorefname{subsubsection}%
3359 \def\paragraphautorefname{paragraph}%
3360 \def\subparagraphautorefname{subparagraph}%
3361 \def\FancyVerbLineautorefname{line}%
3362 \def\theoremautorefname{Theorem}%
3363 \def\pageautorefname{page}%
3364 }
3365 \def\HyLang@french{%
3366 \def\equationautorefname{'Equation}%
3367 \def\footnoteautorefname{note}%
3368 \def\itemautorefname{item}%
3369 \def\figureautorefname{Figure}%
3370 \def\tableautorefname{Tableau}%
3371 \def\partautorefname{Partie}%
3372 \def\appendixautorefname{Appendice}%
3373 \def\chapterautorefname{chapitre}%
3374 \def\sectionautorefname{section}%
3375 \def\subsectionautorefname{sous-section}%
3376 \def\subsubsectionautorefname{sous-sous-section}%
3377 \def\paragraphautorefname{paragraphe}%
3378 \def\subparagraphautorefname{sous-paragraphe}%
3379 \def\FancyVerbLineautorefname{ligne}%
3380 \def\theoremautorefname{Th\'eor\'eme}%
3381 \def\pageautorefname{page}%
3382 }
3383 \def\HyLang@german{%
3384 \def\equationautorefname{Gleichung}%
3385 \def\footnoteautorefname{Fu\ss note}%
3386 \def\itemautorefname{Punkt}%
3387 \def\figureautorefname{Abbildung}%
3388 \def\tableautorefname{Tabelle}%
3389 \def\partautorefname{Teil}%
3390 \def\appendixautorefname{Anhang}%
3391 \def\chapterautorefname{Kapitel}%
3392 \def\sectionautorefname{Abschnitt}%
3393 \def\subsectionautorefname{Unterabschnitt}%
3394 \def\subsubsectionautorefname{Unterunterabschnitt}%
3395 \def\paragraphautorefname{Absatz}%
3396 \def\subparagraphautorefname{Unterabsatz}%
3397 \def\FancyVerbLineautorefname{Zeile}%
3398 \def\theoremautorefname{Theorem}%
3399 \def\pageautorefname{Seite}%
3400 }
3401 \def\HyLang@italian{%
3402 \def\equationautorefname{Equazione}%
3403 \def\footnoteautorefname{nota}%
3404 \def\itemautorefname{punto}%
3405 \def\figureautorefname{Figura}%

```

```

3406 \def\tableautorefname{Tabella}%
3407 \def\partautorefname{Parte}%
3408 \def\appendixautorefname{Appendice}%
3409 \def\chapterautorefname{Capitolo}%
3410 \def\sectionautorefname{sezione}%
3411 \def\subsectionautorefname{sottosezione}%
3412 \def\subsubsectionautorefname{sottosottosezione}%
3413 \def\paragraphautorefname{paragrafo}%
3414 \def\subparagraphautorefname{sottoparagrafo}%
3415 \def\FancyVerbLineautorefname{linea}%
3416 \def\theoremautorefname{Teorema}%
3417 \def\pageautorefname{Pag.\@}%
3418 }
3419 \def\HyLang@magyar{%
3420 \def\equationautorefname{Egyenlet}%
3421 \def\footnoteautorefname{l'abjegyzet}%
3422 \def\itemautorefname{Elem}%
3423 \def\figureautorefname{'Abra}%
3424 \def\tableautorefname{T'abl'azat}%
3425 \def\partautorefname{R'esz}%
3426 \def\appendixautorefname{F'uggel'ek}%
3427 \def\chapterautorefname{fejezet}%
3428 \def\sectionautorefname{szakasz}%
3429 \def\subsectionautorefname{alszakasz}%
3430 \def\subsubsectionautorefname{alalszakasz}%
3431 \def\paragraphautorefname{bekezd'es}%
3432 \def\subparagraphautorefname{albekezd'es}%
3433 \def\FancyVerbLineautorefname{sor}%
3434 \def\theoremautorefname{T'etel}%
3435 \def\pageautorefname{oldal}%
3436 }
3437 \def\HyLang@portuges{%
3438 \def\equationautorefname{Equa\c c\~ao}%
3439 \def\footnoteautorefname{Nota de rodap'e}%
3440 \def\itemautorefname{Item}%
3441 \def\figureautorefname{Figura}%
3442 \def\tableautorefname{Tabela}%
3443 \def\partautorefname{Parte}%
3444 \def\appendixautorefname{Ap\~endice}%
3445 \def\chapterautorefname{Cap\~itulo}%
3446 \def\sectionautorefname{Se\c c\~ao}%
3447 \def\subsectionautorefname{Subse\c c\~ao}%
3448 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3449 \def\paragraphautorefname{par\~agrafo}%
3450 \def\subparagraphautorefname{subpar\~agrafo}%
3451 \def\FancyVerbLineautorefname{linha}%
3452 \def\theoremautorefname{Teorema}%
3453 \def\pageautorefname{P\~agina}%
3454 }

```

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`.

```
3455 \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`?

```
3456 \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`.

```
3457 % \def\equationautorefname{%
```

```
3458 % \cyr\cyrv\cyrrery\cyrr\cyra\cyrrzh\cyre\cyrn\cyri\cyre
```

```
3459 % }%
```

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

```
3460 \def\footnoteautorefname{%
```

```
3461 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
```

```
3462 }%
```

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}`”

```
3463 % \def\footnoteautorefname{%
```

```
3464 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
```

```
3465 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
```

```
3466 % }%
```

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

```
3467 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
```

```
3468 % \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.

```
3469 \def\itemautorefname{\cyr\cyrp.}%
```

```
3470 % \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.

```
3471 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
```

```
3472 \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.

```
3473 \def\partautorefname{\cyr\cyrch.}%
3474 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3475 \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.

```
3476 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
3477 % \def\appendixautorefname{%
3478 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrzh\cyre\cyrn\cyri\cyre
3479 % }%
```

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.

```
3480 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3481 \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.

```
3482 \def\paragraphautorefname{\cyr\cyrp.}%
3483 \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.

```
3484 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3485 % \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.

```
3486 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3487 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3488 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3489 % \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 ...

```
3490 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```



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

```
3491 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyr\cyra}%
3492 % \def\Accttheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyr\cyru}%
```

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

```
3493 \def\pageautorefname{\cyr\cyrs.}%
3494 }
```

```
3495 \def\HyLang@spanish{%
3496 \def\equationautorefname{Ecuaci'on}%
3497 \def\footnoteautorefname{Nota a pie de p'agina}%
3498 \def\itemautorefname{Elemento}%
3499 \def\figureautorefname{Figura}%
3500 \def\tableautorefname{Tabla}%
3501 \def\partautorefname{Parte}%
3502 \def\appendixautorefname{Ap'endice}%
3503 \def\chapterautorefname{Cap'itulo}%
3504 \def\sectionautorefname{Secci'on}%
3505 \def\subsectionautorefname{Subsecci'on}%
3506 \def\subsubsectionautorefname{Subsubsecci'on}%
3507 \def\paragraphautorefname{P'arrafo}%
3508 \def\subparagraphautorefname{Subp'arrafo}%
3509 \def\FancyVerbLineautorefname{L'inea}%
3510 \def\theoremautorefname{Teorema}%
3511 \def\pageautorefname{P'agina}%
3512 }
3513 \def\HyLang@vietnamese{%
3514 \def\equationautorefname{Ph\uhorn{}}\ohorn{}ng tr\inh}%
3515 \def\footnoteautorefname{Ch'u th'ich}%
3516 \def\itemautorefname{m\du{c}}%
3517 \def\figureautorefname{H\inh}%
3518 \def\tableautorefname{B\ha{ng}}%
3519 \def\partautorefname{Ph'\acircumflex{n}}%
3520 \def\appendixautorefname{Ph\du{l}\du{c}}%
3521 \def\chapterautorefname{ch\uhorn{}}\ohorn{}ng}%
3522 \def\sectionautorefname{m\du{c}}%
3523 \def\subsectionautorefname{m\du{c}}%
3524 \def\subsubsectionautorefname{m\du{c}}%
3525 \def\paragraphautorefname{dj{o}\da{n}}%
3526 \def\subparagraphautorefname{dj{o}\da{n}}%
3527 \def\FancyVerbLineautorefname{d'ong}%
3528 \def\theoremautorefname{DJ}\di{nh l'y}%
3529 \def\pageautorefname{Trang}%
3530 }
```

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

```
3531 \def\HyLang@addto#1#2{%
3532 #2%
3533 \@temptokena{#2}%
```

```

3534 \ifx#1\relax
3535   \let#1\@empty
3536 \fi
3537 \ifx#1\@undefined
3538   \edef#1{\the\@temptokena}%
3539 \else
3540   \toks@\expandafter{#1}%
3541   \edef#1{\the\toks@\the\@temptokena}%
3542 \fi
3543 \@temptokena{}\toks@\@temptokena
3544 }

3545 \def\HyLang@DeclareLang#1#2#3{%
3546   \@ifpackagewith{babel}{#1}{%
3547     \expandafter\HyLang@addto
3548       \csname extras#1\expandafter\endcsname
3549       \csname HyLang@#2\endcsname
3550   \begingroup
3551     \edef\x{\endgroup
3552       #3%
3553     }%
3554   \x
3555   \@namedef{HyLang@#1@done}{}%
3556 }{}%
3557 \begingroup
3558   \edef\x##1##2{%
3559     \noexpand\ifx##2\relax
3560       \errmessage{No definitions for language #2' found!}%
3561     \noexpand\fi
3562   \endgroup
3563   \noexpand\define@key{Hyp}{#1}[]{%
3564     \noexpand\@ifundefined{HyLang@#1@done}{%
3565       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3566       #3%
3567       \noexpand\@namedef{HyLang@#1@done}{}%
3568     }{}%
3569   }%
3570 }%
3571 \expandafter\x\csname extras#1\expandafter\endcsname
3572   \csname HyLang@#2\endcsname
3573 }

3574 \HyLang@DeclareLang{english}{english}{}
3575 \HyLang@DeclareLang{UKenglish}{english}{}
3576 \HyLang@DeclareLang{british}{english}{}
3577 \HyLang@DeclareLang{USenglish}{english}{}
3578 \HyLang@DeclareLang{american}{english}{}
3579 \HyLang@DeclareLang{german}{german}{}
3580 \HyLang@DeclareLang{austrian}{german}{}
3581 \HyLang@DeclareLang{ngerman}{german}{}
3582 \HyLang@DeclareLang{naustrian}{german}{}

```

```

3583 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3584 \HyLang@DeclareLang{brazil}{portuges}{\noexpand\hypersetup{unicode}}
3585 \HyLang@DeclareLang{brazilian}{portuges}{\noexpand\hypersetup{unicode}}
3586 \HyLang@DeclareLang{portuguese}{portuges}{\noexpand\hypersetup{unicode}}
3587 \HyLang@DeclareLang{spanish}{spanish}{\noexpand\hypersetup{unicode}}
3588 \HyLang@DeclareLang{afrikaans}{afrikaans}{\noexpand\hypersetup{unicode}}
3589 \HyLang@DeclareLang{french}{french}{\noexpand\hypersetup{unicode}}
3590 \HyLang@DeclareLang{frenchb}{french}{\noexpand\hypersetup{unicode}}
3591 \HyLang@DeclareLang{français}{french}{\noexpand\hypersetup{unicode}}
3592 \HyLang@DeclareLang{acadian}{french}{\noexpand\hypersetup{unicode}}
3593 \HyLang@DeclareLang{canadien}{french}{\noexpand\hypersetup{unicode}}
3594 \HyLang@DeclareLang{italian}{italian}{\noexpand\hypersetup{unicode}}
3595 \HyLang@DeclareLang{magyar}{magyar}{\noexpand\hypersetup{unicode}}
3596 \HyLang@DeclareLang{hungarian}{magyar}{\noexpand\hypersetup{unicode}}

```

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

```

3597 \DeclareVoidOption{vietnamese}{%
3598   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3599   \Hy@AtEndOfPackage{%
3600     \ifundefined{T@PU}{\noexpand\hypersetup{unicode}}{}%
3601     \input{puvnenc.def}%
3602   }%
3603 }%
3604 }
3605 \DeclareVoidOption{vietnam}{%
3606   \HyLang@addto\extravietnam\HyLang@vietnamese
3607   \Hy@AtEndOfPackage{%
3608     \ifundefined{T@PU}{\noexpand\hypersetup{unicode}}{}%
3609     \input{puvnenc.def}%
3610   }%
3611 }%
3612 }

```

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

```

3613 \DeclareVoidOption{arabic}{%
3614   \Hy@AtEndOfPackage{%
3615     \ifundefined{T@PU}{\noexpand\hypersetup{unicode}}{}%
3616     \input{puarenc.def}%
3617   }%
3618 }%
3619 }

```

## 13 Options to change appearance of links

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

```

3620 \define@key{Hyp}{colorlinks}[true]{%
3621   \Hy@boolkey{colorlinks}{#1}%
3622 }
3623 \DeclareVoidOption{hidelinks}{%

```

```

3624 \Hy@colorlinksfalse
3625 \Hy@ocgcolorlinksfalse
3626 \Hy@frenchlinksfalse
3627 \def\Hy@colorlink##1{\begingroup}%
3628 \def\Hy@endcolorlink{\endgroup}%
3629 \def\@pdfborder{0 0 0}%
3630 \let\@pdfborderstyle\ltx@empty
3631 }
3632 \define@key{Hyp}{ocgcolorlinks}[true]{%
3633 \Hy@boolkey{ocgcolorlinks}{#1}%
3634 }
3635 \Hy@AtBeginDocument{%
3636 \begingroup
3637 \@ifundefined{OBJ@OCG@view}{%
3638 \ifHy@ocgcolorlinks
3639 \Hy@Warning{%
3640 Driver does not support ‘ocgcolorlinks’,\MessageBreak
3641 using ‘colorlinks’ instead%
3642 }%
3643 \fi
3644 }{}%
3645 \endgroup
3646 }
3647 \define@key{Hyp}{frenchlinks}[true]{%
3648 \Hy@boolkey{frenchlinks}{#1}%
3649 }

```

## 14 Bookmarking

```

3650 \begingroup\expandafter\expandafter\expandafter\endgroup
3651 \expandafter\ifx\csname chapter\endcsname\relax
3652 \def\toclevel@part{0}%
3653 \else
3654 \def\toclevel@part{-1}%
3655 \fi
3656 \def\toclevel@chapter{0}
3657 \def\toclevel@section{1}
3658 \def\toclevel@subsection{2}
3659 \def\toclevel@subsubsection{3}
3660 \def\toclevel@paragraph{4}
3661 \def\toclevel@subparagraph{5}
3662 \def\toclevel@figure{0}
3663 \def\toclevel@table{0}
3664 \@ifpackageloaded{listings}{%
3665 \providecommand*\theHlstlisting{\thelstlisting}%
3666 \providecommand*\toclevel@lstlisting{0}%
3667 }{}
3668 \@ifpackageloaded{listing}{%
3669 \providecommand*\theHlisting{\thelisting}%

```

```

3670 \providecommand*\toclevel@listing{0}%
3671 }{}

3672 \define@key{Hyp}{bookmarks}[true]{%
3673   \Hy@boolkey{bookmarks}{#1}%
3674 }

3675 \define@key{Hyp}{bookmarksopen}[true]{%
3676   \Hy@boolkey{bookmarksopen}{#1}%
3677 }

```

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.

```

3678 \let\Hy@bookmarksdepth\c@tocdepth
3679 \define@key{Hyp}{bookmarksdepth}[]{}%
3680 \begingroup
3681   \edef\x{#1}%
3682   \ifx\x\empty
3683     \global\let\Hy@bookmarksdepth\c@tocdepth
3684   \else
3685     \ifundefined{toclevel@\x}{%
3686       \@onelevel@sanitize\x
3687       \edef\y{\expandafter\@car\x\@nil}%
3688       \ifcase 0\expandafter\ifx\y-1\fi
3689         \expandafter\ifnum\expandafter\y>47 %
3690           \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
3691       \Hy@Warning{Unknown document division name (\x)}%
3692     \else
3693       \setbox\z@=\hbox{%
3694         \count@=\x
3695         \xdef\Hy@bookmarksdepth{\the\count@}%
3696       }%
3697     \fi
3698   }{}%
3699   \setbox\z@=\hbox{%
3700     \count@=\csname toclevel@\x\endcsname
3701     \xdef\Hy@bookmarksdepth{\the\count@}%
3702   }%
3703 }%
3704 \fi
3705 \endgroup
3706 }

```

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

```
3707 \define@key{Hyp}{bookmarksopenlevel}{%
3708   \def\@bookmarksopenlevel{#1}%
3709 }
3710 \def\@bookmarksopenlevel{\maxdimen}
3711 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3712 \define@key{Hyp}{bookmarkstype}{%
3713   \def\Hy@bookmarkstype{#1}%
3714 }
3715 \def\Hy@bookmarkstype{toc}
```

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

```
3716 \define@key{Hyp}{bookmarksnumbered}[true]{%
3717   \Hy@boolkey{bookmarksnumbered}{#1}%
3718 }
```

Option CJKbookmarks enables the patch for CJK bookmarks.

```
3719 \define@key{Hyp}{CJKbookmarks}[true]{%
3720   \Hy@boolkey{CJKbookmarks}{#1}%
3721 }

3722 \def\Hy@temp#1{%
3723   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3724 }
3725 \def\Hy@@temp#1#2#3{%
3726   \define@key{Hyp}{#2color}{%
3727     \HyColor@HyperrefColor{##1}{#1}%
3728   }%
3729   \def#1{#3}%
3730 }
3731 \Hy@temp{link}{red}
3732 \Hy@temp{anchor}{black}
3733 \Hy@temp{cite}{green}
3734 \Hy@temp{file}{cyan}
3735 \Hy@temp{url}{magenta}
3736 \Hy@temp{menu}{red}
3737 \Hy@temp{run}{\@filecolor}
3738 \define@key{Hyp}{pagecolor}{%
3739   \Hy@WarningPageColor
3740 }
3741 \def\Hy@WarningPageColor{%
3742   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
3743   \global\let\Hy@WarningPageColor\relax
3744 }
3745 \define@key{Hyp}{allcolors}{%
3746   \HyColor@HyperrefColor{#1}\@linkcolor
3747   \HyColor@HyperrefColor{#1}\@anchorcolor
3748   \HyColor@HyperrefColor{#1}\@citecolor
3749   \HyColor@HyperrefColor{#1}\@filecolor
3750   \HyColor@HyperrefColor{#1}\@urlcolor
```

```

3751 \HyColor@HyperrefColor{#1}\@menucolor
3752 \HyColor@HyperrefColor{#1}\@runcolor
3753 }

3754 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3755 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3756 \let\@baseurl\@empty
3757 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3758 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3759 \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.

```

3760 \let\@pdfpagetransition\relax
3761 \define@key{Hyp}{pdfpagetransition}{%
3762   \def\@pdfpagetransition{#1}%
3763 }

```

`\@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.

```

3764 \let\@pdfpageduration\relax
3765 \define@key{Hyp}{pdfpageduration}{%
3766   \def\@pdfpageduration{#1}%
3767   \Hy@Match\@pdfpageduration{}{%
3768     ^([|0-9]+\.[0-9]*|0-9)*\.[0-9]+)$%
3769   }{}{%
3770     \Hy@Warning{%
3771       Invalid value '@pdfpageduration'\MessageBreak
3772       of option 'pdfpageduration'\MessageBreak
3773       is replaced by an empty value%
3774     }%
3775     \let\@pdfpageduration\ltx@empty
3776   }%
3777 }

```

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.

```

3778 \newif\ifHy@useHidKey
3779 \Hy@useHidKeyfalse
3780 \define@key{Hyp}{pdfpagehidden}[true]{%
3781   \Hy@boolkey{pdfpagehidden}{#1}%
3782   \ifHy@pdfpagehidden
3783     \global\Hy@useHidKeytrue

```

```

3784 \fi
3785 }

```

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).

```

3786 \def\Hy@ColorList{cite,file,link,menu,run,url}
3787 \@for\Hy@temp:=\Hy@ColorList\do{%
3788   \edef\Hy@temp{%
3789     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3790       \noexpand\HyColor@HyperrefBorderColor
3791         {##1}%
3792       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3793         {hyperref}%
3794       {\Hy@temp bordercolor}%
3795     }%
3796   }%
3797   \Hy@temp
3798 }
3799 \define@key{Hyp}{pagebordercolor}{%
3800   \Hy@WarningPageBorderColor
3801 }
3802 \def\Hy@WarningPageBorderColor{%
3803   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3804   \global\let\Hy@WarningPageBorderColor\relax
3805 }
3806 \define@key{Hyp}{allbordercolors}{%
3807   \def\Hy@temp###1##2{%
3808     \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3809   }%
3810   \Hy@temp\@citebordercolor{cite}%
3811   \Hy@temp\@filebordercolor{file}%
3812   \Hy@temp\@linkbordercolor{link}%
3813   \Hy@temp\@menubordercolor{menu}%
3814   \Hy@temp\@runbordercolor{run}%
3815   \Hy@temp\@urlbordercolor{url}%
3816 }
3817 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3818 \Hy@DefNameKey{pdfhighlight}{%
3819   \do{/I}{Invert}%
3820   \do{/N}{None}%
3821   \do{/O}{Outline}%
3822   \do{/P}{Push}%
3823 }

```



```

3824 \define@key{Hyp}{pdfborder}{%
3825   \let\Hy@temp\@pdfborder
3826   \def\@pdfborder{#1}%
3827   \Hy@Match\@pdfborder{}{%
3828     ^\HyPat@NonNegativeReal/ %
3829     \HyPat@NonNegativeReal/ %
3830     \HyPat@NonNegativeReal/%
3831     ( ?[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*])?$$%
3832   }{}{%
3833     \Hy@Warning{%
3834       Invalid value '\@pdfborder'\MessageBreak
3835       for option 'pdfborder'.\MessageBreak
3836       Option setting is ignored%
3837     }%
3838     \let\@pdfborder\Hy@temp
3839   }%
3840 }
3841 \define@key{Hyp}{pdfborderstyle}{%
3842   \let\Hy@temp\@pdfborderstyle
3843   \def\@pdfborderstyle{#1}%
3844   \Hy@Match\@pdfborderstyle{}{%
3845     ^%
3846     ( */Type */Border%
3847     | */W +\HyPat@NonNegativeReal/%
3848     | */S */[SDBIU]%
3849     | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?]%
3850     )* *$%
3851   }{}{%
3852     \Hy@Warning{%
3853       Invalid value '\@pdfborderstyle'\MessageBreak
3854       for option 'pdfborderstyle'.\MessageBreak
3855       Option setting is ignored%
3856     }%
3857     \let\@pdfborderstyle\Hy@temp
3858   }%
3859 }
3860 \def\Hy@setpdfborder{%
3861   \ifx\@pdfborder\@empty
3862     \else
3863       /Border[\@pdfborder]%
3864     \fi
3865   \ifx\@pdfborderstyle\@empty
3866     \else
3867       /BS<<\@pdfborderstyle>>%
3868     \fi
3869 }
3870 \Hy@DefNameKey{pdfpagemode}{%
3871   \do{UseNone}{}%
3872   \do{UseOutlines}{}%
3873   \do{UseThumbs}{}%

```

```

3874 \do{FullScreen}{}%
3875 \do{UseOC}{PDF 1.5}%
3876 \do{UseAttachments}{PDF 1.6}%
3877 }
3878 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3879 \do{UseNone}{}%
3880 \do{UseOutlines}{}%
3881 \do{UseThumbs}{}%
3882 \do{FullScreen}{}%
3883 \do{UseOC}{PDF 1.5}%
3884 \do{UseAttachments}{PDF 1.6}%
3885 }
3886 \Hy@DefNameKey{pdfdirection}{%
3887 \do{L2R}{Left to right}%
3888 \do{R2L}{Right to left}%
3889 }
3890 \Hy@DefNameKey{pdfviewarea}{%
3891 \do{MediaBox}{}%
3892 \do{CropBox}{}%
3893 \do{BleedBox}{}%
3894 \do{TrimBox}{}%
3895 \do{ArtBox}{}%
3896 }
3897 \Hy@DefNameKey{pdfviewclip}{%
3898 \do{MediaBox}{}%
3899 \do{CropBox}{}%
3900 \do{BleedBox}{}%
3901 \do{TrimBox}{}%
3902 \do{ArtBox}{}%
3903 }
3904 \Hy@DefNameKey{pdfprintarea}{%
3905 \do{MediaBox}{}%
3906 \do{CropBox}{}%
3907 \do{BleedBox}{}%
3908 \do{TrimBox}{}%
3909 \do{ArtBox}{}%
3910 }
3911 \Hy@DefNameKey{pdfprintclip}{%
3912 \do{MediaBox}{}%
3913 \do{CropBox}{}%
3914 \do{BleedBox}{}%
3915 \do{TrimBox}{}%
3916 \do{ArtBox}{}%
3917 }
3918 \Hy@DefNameKey{pdfprintscaling}{%
3919 \do{AppDefault}{}%
3920 \do{None}{}%
3921 }
3922 \Hy@DefNameKey{pdfduplex}{%
3923 \do{Simplex}{}%

```

```

3924 \do{DuplexFlipShortEdge}{}%
3925 \do{DuplexFlipLongEdge}{}%
3926 }
3927 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3928 \do{true}{}%
3929 \do{false}{}%
3930 }
3931 \define@key{Hyp}{pdfprintpagerange}{%
3932 \def\@pdfprintpagerange{#1}%
3933 }
3934 \Hy@DefNameKey{pdfnumcopies}{%
3935 \do{2}{two copies}%
3936 \do{3}{three copies}%
3937 \do{4}{four copies}%
3938 \do{5}{five copies}%
3939 }
3940 \define@key{Hyp}{pdfusetitle}[true]{%
3941 \Hy@boolkey{pdfusetitle}{#1}%
3942 }
3943 \def\HyXeTeX@CheckUnicode{%
3944 \ifxetex
3945 \ifHy@unicode
3946 \else
3947 \Hy@WarningNoLine{%
3948 XeTeX driver only supports unicode.\MessageBreak
3949 Enabling option 'unicode'%
3950 }%
3951 \kvsetkeys{Hyp}{unicode}%
3952 \fi
3953 \else
3954 \let\HyXeTeX@CheckUnicode\relax
3955 \fi
3956 }
3957 \def\HyPsd@PrerenderUnicode#1{%
3958 \begingroup
3959 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3960 \else
3961 \sbox0{%
3962 \let\GenericInfo\@gobbletwo
3963 \let\GenericWarning\@gobbletwo
3964 \let\GenericError\@gobblefour
3965 \PrerenderUnicode{#1}%
3966 }%
3967 \fi
3968 \endgroup
3969 }
3970 \define@key{Hyp}{pdftitle}{%
3971 \HyXeTeX@CheckUnicode
3972 \HyPsd@XeTeXBigCharstrue

```

```

3973 \HyPsd@PrerenderUnicode{#1}%
3974 \pdfstringdef\@pdftitle{#1}%
3975 }
3976 \define@key{Hyp}{pdfauthor}{%
3977 \HyXeTeX@CheckUnicode
3978 \HyPsd@XeTeXBigCharstrue
3979 \HyPsd@PrerenderUnicode{#1}%
3980 \pdfstringdef\@pdfauthor{#1}%
3981 }
3982 \define@key{Hyp}{pdfproducer}{%
3983 \HyXeTeX@CheckUnicode
3984 \HyPsd@XeTeXBigCharstrue
3985 \HyPsd@PrerenderUnicode{#1}%
3986 \pdfstringdef\@pdfproducer{#1}%
3987 \ifxetex
3988 \Hy@Warning{%
3989 pdfproducer: %
3990 xdvipdfmx will use its own setting\MessageBreak
3991 instead of the value given%
3992 }%
3993 \else
3994 \def\Hy@temp{hdvipdfm}%
3995 \ifx\Hy@driver\Hy@temp
3996 \Hy@Warning{%
3997 pdfproducer: %
3998 dvipdfm(x) will use its own setting\MessageBreak
3999 instead of the value given%
4000 }%
4001 \fi
4002 \fi
4003 }
4004 \define@key{Hyp}{pdfcreator}{%
4005 \HyXeTeX@CheckUnicode
4006 \HyPsd@XeTeXBigCharstrue
4007 \HyPsd@PrerenderUnicode{#1}%
4008 \pdfstringdef\@pdfcreator{#1}%
4009 }
4010 \define@key{Hyp}{pdfcreationdate}{%
4011 \beginngroup
4012 \Hy@unicodedefalse
4013 \pdfstringdef\@pdfcreationdate{#1}%
4014 \endgroup
4015 }
4016 \define@key{Hyp}{pdfmoddate}{%
4017 \beginngroup
4018 \Hy@unicodedefalse
4019 \pdfstringdef\@pdfmoddate{#1}%
4020 \endgroup
4021 }
4022 \define@key{Hyp}{pdfsubject}{%

```

```

4023 \HyXeTeX@CheckUnicode
4024 \HyPsd@XeTeXBigCharstrue
4025 \HyPsd@PrerenderUnicode{#1}%
4026 \pdfstringdef\@pdfsubject{#1}%
4027 }
4028 \define@key{Hyp}{pdfkeywords}{%
4029 \HyXeTeX@CheckUnicode
4030 \HyPsd@XeTeXBigCharstrue
4031 \HyPsd@PrerenderUnicode{#1}%
4032 \pdfstringdef\@pdfkeywords{#1}%
4033 }
4034 \define@key{Hyp}{pdftrapped}{%
4035 \lowercase{\edef\Hy@temp{#1}}%
4036 \ifx\Hy@temp\HyInfo@trapped@true
4037 \def\@pdftrapped{True}%
4038 \else
4039 \ifx\Hy@temp\HyInfo@trapped@false
4040 \def\@pdftrapped{False}%
4041 \else
4042 \ifx\Hy@temp\HyInfo@trapped@unknown
4043 \def\@pdftrapped{Unknown}%
4044 \else
4045 \ifx\Hy@temp\@empty
4046 \else
4047 \Hy@Warning{%
4048   Unsupported value '#1'\MessageBreak
4049   for option 'pdftrapped'%
4050 }%
4051 \fi
4052 \def\@pdftrapped{}%
4053 \fi
4054 \fi
4055 \fi
4056 }
4057 \def\HyInfo@trapped@true{true}
4058 \def\HyInfo@trapped@false{false}
4059 \def\HyInfo@trapped@unknown{unknown}
4060 \def\HyInfo@TrappedUnsupported{%
4061 \ifx\@pdftrapped\@empty
4062 \else
4063 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
4064 \gdef\HyInfo@TrappedUnsupported{}%
4065 \fi
4066 }
4067 \define@key{Hyp}{pdfinfo}{%
4068 \kvsetkeys{pdfinfo}{#1}%
4069 }
4070 \def\Hy@temp#1{%
4071 \lowercase{\Hy@temp@A{#1}}{#1}%
4072 }

```

```

4073 \def\Hy@temp@A#1#2{%
4074   \define@key{pdfinfo}{#2}{%
4075     \hypersetup{pdf#1={##1}}}%
4076   }%
4077 }
4078 \Hy@temp{Title}
4079 \Hy@temp{Author}
4080 \Hy@temp{Keywords}
4081 \Hy@temp{Subject}
4082 \Hy@temp{Creator}
4083 \Hy@temp{Producer}
4084 \Hy@temp{CreationDate}
4085 \Hy@temp{ModDate}
4086 \Hy@temp{Trapped}
4087 \newif\ifHyInfo@AddonUnsupported
4088 \kv@set@family@handler{pdfinfo}{%
4089   \HyInfo@AddonHandler{#1}{#2}%
4090 }
4091 \let\HyInfo@do\relax
4092 \def\HyInfo@AddonHandler#1#2{%
4093   \ifx\kv@value\relax
4094     \Hy@Warning{%
4095       Option 'pdfinfo': ignoring key '\kv@key' without value%
4096     }%
4097   \else
4098     \edef\EscapeName\HyInfo@KeyEscaped{\kv@key}%
4099     \edef\UnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
4100     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
4101       \ifHyInfo@AddonUnsupported
4102         \Hy@Warning{%
4103           This driver does not support additional\MessageBreak
4104           information entries, therefore\MessageBreak
4105           '\kv@key' is ignored%
4106         }%
4107       \else
4108         \def\HyInfo@tmp##1{%
4109           \kv@define@key{pdfinfo}{##1}{%
4110             \HyXeTeX@CheckUnicode
4111             \HyPsd@XeTeXBigCharstrue
4112             \HyPsd@PrerenderUnicode{####1}%
4113             \pdfstringdef\HyInfo@Value{####1}%
4114             \global\expandafter
4115             \let\csname HyInfo@Value@##1\endcsname
4116               \HyInfo@Value
4117           }%
4118         }%
4119         \expandafter\HyInfo@tmp\expandafter{\HyInfo@Key}%
4120         \global\expandafter
4121         \let\csname KV@pdfinfo@\HyInfo@Key\endcsname
4122           \csname KV@pdfinfo@\HyInfo@Key\endcsname

```

```

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

```

```

4172 \def\@pdfviewparams{ -32768}%
4173 \else
4174 \def\@pdfviewparams{ #2}%
4175 \fi
4176 }
4177 \begingroup\expandafter\expandafter\expandafter\endgroup
4178 \expandafter\ifx\csname numexpr\endcsname\relax
4179 \def\Hy@number#1{%
4180 \expandafter\@firstofone\expandafter{\number#1}%
4181 }%
4182 \else
4183 \def\Hy@number#1{%
4184 \the\numexpr#1\relax
4185 }%
4186 \fi
4187 \define@key{Hyp}{pdfstartpage}{%
4188 \ifx\#1\%
4189 \let\@pdfstartpage\ltx@empty
4190 \else
4191 \edef\@pdfstartpage{\Hy@number{#1}}%
4192 \fi
4193 }%
4194 \define@key{Hyp}{pdfstartview}{%
4195 \ifx\#1\%
4196 \let\@pdfstartview\ltx@empty
4197 \else
4198 \hypercalcbpdef\@pdfstartview{/#1}%
4199 \fi
4200 }
4201 \def\HyPat@NonNegativeReal/{%
4202 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
4203 }
4204 \define@key{Hyp}{pdfremotestartview}{%
4205 \ifx\#1\%
4206 \def\@pdfremotestartview{/Fit}%
4207 \else
4208 \hypercalcbpdef\@pdfremotestartview{#1}%
4209 \edef\@pdfremotestartview{\@pdfremotestartview}%
4210 \Hy@Match\@pdfremotestartview{%
4211 ^{XYZ -?(null|\HyPat@NonNegativeReal/) %
4212 -?(null|\HyPat@NonNegativeReal/) %
4213 (null|\HyPat@NonNegativeReal/)|%
4214 Fit(|B| %
4215 (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
4216 R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
4217 \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
4218 )}$%
4219 }{%
4220 \Hy@Warning{%
4221 Invalid value '\@pdfremotestartview'\MessageBreak

```



```

4222         of 'pdfremotestartview'\MessageBreak
4223         is replaced by 'Fit'%
4224     }%
4225     \let\@pdfremotestartview\@empty
4226 }%
4227 \ifx\@pdfremotestartview\@empty
4228     \def\@pdfremotestartview{/Fit}%
4229 \else
4230     \edef\@pdfremotestartview{/ \@pdfremotestartview}%
4231 \fi
4232 \fi
4233 }
4234 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
4235 \define@key{Hyp}{pdftoolbar}[true]{%
4236     \Hy@boolkey{pdftoolbar}{#1}%
4237 }
4238 \define@key{Hyp}{pdfmenubar}[true]{%
4239     \Hy@boolkey{pdfmenubar}{#1}%
4240 }
4241 \define@key{Hyp}{pdfwindowui}[true]{%
4242     \Hy@boolkey{pdfwindowui}{#1}%
4243 }
4244 \define@key{Hyp}{pdffitwindow}[true]{%
4245     \Hy@boolkey{pdffitwindow}{#1}%
4246 }
4247 \define@key{Hyp}{pdfcenterwindow}[true]{%
4248     \Hy@boolkey{pdfcenterwindow}{#1}%
4249 }
4250 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
4251     \Hy@boolkey{pdfdisplaydoctitle}{#1}%
4252 }
4253 \define@key{Hyp}{pdfa}[true]{%
4254     \Hy@boolkey{pdfa}{#1}%
4255 }
4256 \define@key{Hyp}{pdfnewwindow}[true]{%
4257     \def\Hy@temp{#1}%
4258     \ifx\Hy@temp\@empty
4259         \Hy@pdfnewwindowsetfalse
4260     \else
4261         \Hy@pdfnewwindowsettrue
4262         \Hy@boolkey{pdfnewwindow}{#1}%
4263     \fi
4264 }
4265 \def\Hy@SetNewWindow{%
4266     \ifHy@pdfnewwindowset
4267         /NewWindow %
4268     \ifHy@pdfnewwindow true\else false\fi
4269 \fi
4270 }
4271 \Hy@DefNameKey{pdfpagelayout}{%

```

```

4272 \do{SinglePage}{}%
4273 \do{OneColumn}{}%
4274 \do{TwoColumnLeft}{}%
4275 \do{TwoColumnRight}{}%
4276 \do{TwoPageLeft}{PDF 1.5}%
4277 \do{TwoPageRight}{PDF 1.5}%
4278 }
4279 \define@key{Hyp}{pdflang}{%
4280 \edef\@pdflang{#1}%
4281 \def\Hy@temp{\relax}%
4282 \ifx\@pdflang\Hy@temp
4283 \let\@pdflang\relax
4284 \fi
4285 \ifx\@pdflang\relax
4286 \else
4287 \ifx\@pdflang\ltx@empty
4288 \else

```

Test according to ABNF of RFC 3066.

```

4289 \Hy@Match\@pdflang{icase}{%
4290 ~%
4291 [a-z]{1,8}%
4292 (-[a-z0-9]{1,8})*%
4293 $%
4294 }{%

```

Test according to ABNF of RFC 5646.

```

4295 \Hy@Match\@pdflang{icase}{%
4296 ~%
4297 (%
4298 % langtag
4299 (% language
4300 [a-z]{2,3}%
4301 ([a-z]{3}(-[a-z]{3}){0,2})?% extlang
4302 |[a-z]{4}% reserved for future use
4303 |[a-z]{5,8}% registered language subtag
4304 )%
4305 (-[a-z]{4})?% script
4306 (-([a-z]{2}|[0-9]{3}))?% region
4307 (-([a-z]{5,8}|[0-9][a-z0-9]{3}))?% variant
4308 (-[0-9a-wyz](-[a-z0-9]{2,8})+)*% extension
4309 (-x(-[a-z0-9]{1,8})+)?% privateuse
4310 % privateuse
4311 |x(-[a-z0-9]{1,8})+%
4312 % grandfathered/irregular
4313 |en-GB-oed%
4314 |i-(ami|bnn|default|enochian|hak|klinton|lux|
4315 mingo|navajo|pwn|tao|tay|tsu)%
4316 |sgn-(BE-FR|BE-NL|CH-DE)%
4317 % grandfathered/regular

```

```

4318         |art-lojban%
4319         |cel-gaulish%
4320         |no-(bok|nyn)%
4321         |zh-(guoyu|hakka|min|min-nan|xiang)%
4322     )%
4323     $%
4324     }{%

```

Test for unique extensions.

```

4325     \Hy@Match{-\@pdflang}{icase}{-[a-wyz0-9]-}{%
4326     \Hy@Match\@pdflang{icase}{~x-}{}{%
4327     % remove privateuse
4328     \edef\Hy@temp{-\@pdflang}%
4329     \Hy@Match\Hy@temp{icase}{%
4330     ~%
4331     (%
4332     (-[a-wyz0-9]|-[a-z0-9]{2,8})*%
4333     )%
4334     -x-%
4335     }{%
4336     \edef\Hy@temp{%
4337     \expandafter\strip@prefix\pdfastmatch1%
4338     }%
4339     }{}%
4340     \Hy@Match\Hy@temp{icase}{%
4341     (-[a-wyz0-9]-).*\ltx@backslashchar1%
4342     }{%
4343     \Hy@Warning{%
4344     Invalid language identifier ‘#1’\MessageBreak
4345     for option ‘pdflang’, because it violates\MessageBreak
4346     well-formedness defined in RFC 4646\MessageBreak
4347     by duplicate singleton subtags%
4348     }%
4349     \let\@pdflang\relax
4350     }{}%
4351     }%
4352     }{}%

```

User-assigned country codes are forbidden in language tags (RFC 3066).

```

4353     \ifx\@pdflang\relax
4354     \else
4355     \Hy@Match\@pdflang{icase}{%
4356     ~%
4357     [a-zA-Z]{2}-%
4358     (%
4359     aa|AA|%
4360     [qQ][m-zA-Z]|%
4361     [xX][a-zA-Z]|%
4362     zz|ZZ%
4363     )%
4364     (-|%)%

```

```

4365     }{%
4366     \Hy@Warning{%
4367         Invalid language identifier '#1'\MessageBreak
4368         for option 'pdflang' because of invalid country code%
4369         \MessageBreak
4370         in second subtag (RFC 3066)%
4371     }%
4372     \let\@pdflang\relax
4373 }{%
4374 \fi
4375 }{%
4376 \Hy@Warning{%
4377     Invalid language identifier '#1'\MessageBreak
4378     for option 'pdflang', because it violates\MessageBreak
4379     well-formedness defined in RFC 5646%
4380 }%
4381 \let\@pdflang\relax
4382 }%
4383 }{%
4384 \Hy@Warning{%
4385     Invalid language identifier '#1'\MessageBreak
4386     for option 'pdflang' (RFC 3066)%
4387 }%
4388 \let\@pdflang\relax
4389 }%
4390 \fi
4391 \fi
4392 }
4393 \define@key{Hyp}{pdfpagelabels}[true]{%
4394 \Hy@boolkey{pdfpagelabels}{#1}%
4395 }
4396 \define@key{Hyp}{pdfescapeform}[true]{%
4397 \Hy@boolkey{pdfescapeform}{#1}%
4398 }

```

Default values:

```

4399 \def\@linkbordercolor{1 0 0}
4400 \def\@urlbordercolor{0 1 1}
4401 \def\@menubordercolor{1 0 0}
4402 \def\@filebordercolor{0 .5 .5}
4403 \def\@runbordercolor{0 .7 .7}
4404 \def\@citebordercolor{0 1 0}
4405 \def\@pdfhighlight{/I}
4406 \let\@pdftitle\ltx@empty
4407 \let\@pdfauthor\ltx@empty
4408 \let\@pdfproducer\relax
4409 \def\@pdfcreator{LaTeX with hyperref package}
4410 \let\@pdfcreationdate\ltx@empty
4411 \let\@pdfmoddate\ltx@empty
4412 \let\@pdfsubject\ltx@empty

```

```

4413 \let\@pdfkeywords\ltx@empty
4414 \let\@pdftrapped\ltx@empty
4415 \let\@pdfpagescrop\ltx@empty
4416 \def\@pdfstartview{/Fit}
4417 \def\@pdfremotestartview{/Fit}
4418 \def\@pdfstartpage{1}
4419 \let\@pdfprintpagerange\ltx@empty
4420 \let\@pdflang\relax
4421 \let\PDF@SetupDoc\@empty
4422 \let\PDF@FinishDoc\@empty
4423 \let\phantomsection\@empty
4424 \let\special@paper\@empty
4425 \def\HyperDestNameFilter#1{#1}
4426 \Hy@AtBeginDocument{%
4427   \begingroup
4428     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4429     \dimen@=\x\relax
4430     \ifdim\dimen@>\z@
4431       \else
4432         \dimen@=11in\relax
4433         \Hy@WarningNoLine{%
4434           Height of page (\expandafter\string\x) %
4435           is invalid (\the\x),\MessageBreak
4436           using 11in%
4437         }%
4438       \fi
4439       \dimen@=0.99626401\dimen@
4440       \xdef\Hy@pageheight{\strip@pt\dimen@}%
4441     \endgroup
4442 }
4443 \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.

```

4444 \let\hyper@normalise\ExecuteOptions
4445 \let\ExecuteOptions\hypersetup
4446 \Hy@RestoreCatcodes
4447 \InputIfFileExists{hyperref.cfg}{-}{-}
4448 \Hy@SetCatcodes
4449 \let\ExecuteOptions\hyper@normalise
4450 \ifx\Hy@MaybeStopNow\relax
4451 \else
4452   \Hy@stoppeearlytrue
4453   \expandafter\Hy@MaybeStopNow
4454 \fi
4455 \Hy@stoppeearlyfalse

```

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.

```

4456 \SetupKeyvalOptions{family=Hyp}
4457 \DeclareLocalOptions{%
4458   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4459 }

    Add option tex4ht if package tex4ht is loaded.
4460 \@ifpackagewith{hyperref}{tex4ht}{%
4461 }{%
4462   \@ifpackageloaded{tex4ht}{%
4463     \PassOptionsToPackage{tex4ht}{hyperref}%
4464   }{%
4465     \ltx@ifundefined{HCode}{%
4466     }{%
4467       \begingroup
4468       \def\Hy@pkg{tex4ht}%
4469       \def\Hy@temp@A#1\RequirePackage[#2]#3#4\Hy@NIL{%
4470         \def\Hy@param{#2#3}%
4471         \ifx\Hy@param\ltx@empty
4472           \expandafter\ltx@gobble
4473         \else
4474           \def\Hy@param{#3}%
4475           \ifx\Hy@param\Hy@pkg
4476             \PassOptionsToPackage{#2}{tex4ht}%
4477             \expandafter\expandafter\expandafter\@gobble
4478           \else
4479             \expandafter\expandafter\expandafter\ltx@firstofone
4480           \fi
4481         \fi
4482         {\Hy@temp@A#4\Hy@NIL}%
4483       }%
4484       \expandafter
4485       \Hy@temp@A\@documentclasshook\RequirePackage[]{}\Hy@NIL
4486     \endgroup
4487     \PassOptionsToPackage{tex4ht}{hyperref}%
4488   }%
4489 }%
4490 }

4491 \let\ReadBookmarks\relax
4492 \ProcessKeyvalOptions{Hyp}

```

After processing options.

## 15.1 Package xspace support

```

4493 \def\Hy@xspace@end{}
4494 \ltx@ifundefined{xspaceaddexceptions}{%
4495   \Hy@AtBeginDocument{%
4496     \ltx@ifundefined{xspaceaddexceptions}{%
4497     }{%
4498       \def\Hy@xspace@end{%

```

```

4499     \ltx@gobble{end for xspace}%
4500   }%
4501   \xspaceaddexceptions{%
4502     \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4503   }%
4504 }%
4505 }%
4506 }{%
4507   \def\Hy@xspace@end{%
4508     \ltx@gobble{end for xspace}%
4509   }%
4510   \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4511 }

```

## 15.2 Option draft

```

4512 \Hy@AtBeginDocument{%
4513   \ifHy@draft
4514     \let\hyper@@anchor\@gobble
4515     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4516     \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4517     \def\hyper@anchorend{\Hy@xspace@end}%
4518     \let\hyper@linkstart\@gobbletwo
4519     \def\hyper@linkend{\Hy@xspace@end}%
4520     \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4521     \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4522     \def\hyper@link@{#1}#2#3#4{#4\Hy@xspace@end}%
4523     \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4524     \let\PDF@SetupDoc\@empty
4525     \let\PDF@FinishDoc\@empty
4526     \let\@fifthoffive\@secondoftwo
4527     \let\@secondoffive\@secondoftwo
4528     \let\ReadBookmarks\relax
4529     \let\WriteBookmarks\relax
4530     \Hy@WarningNoLine{Draft mode on}%
4531   \fi
4532   \Hy@DisableOption{draft}%
4533   \Hy@DisableOption{nolinks}%
4534   \Hy@DisableOption{final}%
4535 }

```

## 15.3 PDF/A

```

4536 \Hy@DisableOption{pdfa}
4537 \ifHy@pdfa
4538   \kvsetkeys{Hyp}{pdfversion=1.4}%
4539   \Hy@DisableOption{pdfversion}%
4540   \def\Hy@Acrobatmenu#1#2{%
4541     \leavevmode
4542     \begingroup
4543     \edef\x{#1}%

```

```

4544 \Onelevel@sanitize\x
4545 \ifx\x\Hy@NextPage
4546 \let\y=Y%
4547 \else
4548 \ifx\x\Hy@PrevPage
4549 \let\y=Y%
4550 \else
4551 \ifx\x\Hy@FirstPage
4552 \let\y=Y%
4553 \else
4554 \ifx\x\Hy@LastPage
4555 \let\y=Y%
4556 \else
4557 \let\y=N%
4558 \fi
4559 \fi
4560 \fi
4561 \fi
4562 \expandafter\endgroup
4563 \ifx\y Y%
4564 \else
4565 \Hy@Error{%
4566 PDF/A: Named action ‘#1’ is not permitted%
4567 }\@ehc
4568 {#2}%
4569 \expandafter\@gobble
4570 \fi
4571 }%
4572 \def\Hy@temp#1{%
4573 \expandafter\def\csname Hy@#1\endcsname{#1}%
4574 \expandafter\Onelevel@sanitize\csname Hy@#1\endcsname
4575 }%
4576 \Hy@temp{NextPage}%
4577 \Hy@temp{PrevPage}%
4578 \Hy@temp{FirstPage}%
4579 \Hy@temp{LastPage}%
4580 \else
4581 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4582 \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.

```

4583 \Hy@nextfalse
4584 \ltx@ifundefined{spanish@sh@}{\Hy@nexttrue}
4585 \ltx@ifundefined{galician@sh@}{\Hy@nexttrue}
4586 \ltx@ifundefined{estonian@sh@}{\Hy@nexttrue}
4587 \ifHy@next

```



```

4588 \let\texttilde\~%
4589 \fi

4590 \def\Hy@wrapper@babel#1#2{%
4591 \begingroup
4592 \Hy@safe@activetrue
4593 \set@display@protect
4594 \edef\x{#2}%
4595 \@onelevel@sanitize\x
4596 \toks@{#1}%
4597 \edef\x{\endgroup\the\toks@\{x\}}%
4598 \x
4599 }

4600 \def\Hy@WrapperDef#1{%
4601 \begingroup
4602 \escapechar=\m@ne
4603 \xdef\Hy@gtemp{%
4604 \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4605 }%
4606 \endgroup
4607 \edef#1{%
4608 \noexpand\Hy@wrapper@babel
4609 \expandafter\noexpand\Hy@gtemp
4610 }%
4611 \expandafter\def\Hy@gtemp
4612 }

4613 \ifHy@hyperfigures
4614 \Hy@Info{Hyper figures ON}%
4615 \else
4616 \Hy@Info{Hyper figures OFF}%
4617 \fi

4618 \ifHy@nesting
4619 \Hy@Info{Link nesting ON}%
4620 \else
4621 \Hy@Info{Link nesting OFF}%
4622 \fi

4623 \ifHy@hyperindex
4624 \Hy@Info{Hyper index ON}%
4625 \else
4626 \Hy@Info{Hyper index OFF}%
4627 \fi

4628 \ifHy@plainpages
4629 \Hy@Info{Plain pages ON}%
4630 \else
4631 \Hy@Info{Plain pages OFF}%
4632 \fi

4633 \ifHy@backref
4634 \Hy@Info{Backreferencing ON}%
4635 \else
4636 \Hy@Info{Backreferencing OFF}%

```

```

4637 \fi
4638 \ifHy@typexml
4639   \Hy@AtEndOfPackage{%
4640     \RequirePackage{color}%
4641     \RequirePackage{nameref}[2012/07/28]%
4642   }%
4643 \fi
4644 \Hy@DisableOption{typexml}
4645 \ifHy@implicit
4646   \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4647 \else
4648   \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4649 \def\MaybeStopEarly{%
4650   \Hy@Message{Stopped early}%
4651   \Hy@AtBeginDocument{%
4652     \PDF@FinishDoc
4653     \gdef\PDF@FinishDoc{}}%
4654   }%
4655 \endinput
4656 }%
4657 \Hy@AtBeginDocument{%
4658   \let\autoref\ref
4659   \let\autopageref\pageref
4660   \ifx\@pdfpagemode\@empty
4661     \gdef\@pdfpagemode{UseNone}%
4662   \fi
4663   \global\Hy@backreffalse
4664 }%
4665 \Hy@AtEndOfPackage{%
4666   \global\let\ReadBookmarks\relax
4667   \global\let\WriteBookmarks\relax
4668 }%
4669 \fi
4670 \Hy@DisableOption{implicit}

```

#### 15.4.1 Driver loading

```

4671 \Hy@AtEndOfPackage{%
4672   \@ifpackageloaded{tex4ht}{%
4673     \def\Hy@driver{htex4ht}%
4674     \Hy@texhttrue
4675   }{}%

```

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.

```

4676   \ifx\Hy@driver\@empty
4677   \else
4678     \def\Hy@temp{hpdfTeX}%
4679     \ifpdf
4680       \ifx\Hy@driver\Hy@temp

```

```

4681 \else
4682 \Hy@WarningNoLine{%
4683   Wrong driver '\Hy@driver.def';\MessageBreak
4684   pdfTeX is running in PDF mode.\MessageBreak
4685   Forcing driver '\Hy@temp.def'%
4686 }%
4687 \let\Hy@driver\Hy@temp
4688 \fi
4689 \else
4690 \ifx\Hy@driver\Hy@temp
4691 \Hy@WarningNoLine{%
4692   Wrong driver '\Hy@driver.def';\MessageBreak
4693   pdfTeX is not running in PDF mode.\MessageBreak
4694   Using default driver%
4695 }%
4696 \let\Hy@driver\@empty
4697 \fi
4698 \fi
4699 \fi
4700 \ifHy@texht
4701 \else
4702 \ifx\Hy@driver\@empty
4703 \else
4704 \def\Hy@temp{hxdetex}%
4705 \ifxdetex
4706 \ifx\Hy@driver\Hy@temp
4707 \else
4708 \Hy@WarningNoLine{%
4709   Wrong driver '\Hy@driver.def';\MessageBreak
4710   XeTeX is running.\MessageBreak
4711   Forcing driver '\Hy@temp.def' for XeTeX%
4712 }%
4713 \let\Hy@driver\Hy@temp
4714 \fi
4715 \fi
4716 \fi
4717 \fi
4718 \ifx\Hy@driver\@empty
4719 \else
4720 \def\Hy@temp{hvtexhtm}%
4721 \ifvtexhtml
4722 \ifx\Hy@driver\Hy@temp
4723 \else
4724 \Hy@WarningNoLine{%
4725   Wrong driver '\Hy@driver.def';\MessageBreak
4726   VTeX is running in HTML mode.\MessageBreak
4727   Forcing driver '\Hy@temp.def'%
4728 }%
4729 \let\Hy@driver\Hy@temp
4730 \fi

```

```

4731 \else
4732   \ifx\Hy@driver\Hy@temp
4733     \Hy@WarningNoLine{%
4734       Wrong driver ‘\Hy@driver.def’;\MessageBreak
4735       VTeX is not running in HTML mode.\MessageBreak
4736       Using default driver%
4737     }%
4738     \let\Hy@driver\@empty
4739   \fi
4740 \fi
4741 \fi

```

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

```

4742 \let\HyOpt@DriverType\ltx@empty
4743 \ifx\HyOpt@CustomDriver\ltx@empty
4744   \ifx\Hy@driver\@empty
4745     \def\HyOpt@DriverType{ (autodetected)}%
4746     \providecommand*{\Hy@defaultdriver}{hypertex}%
4747     \ifpdf
4748       \def\Hy@driver{hpdfTEX}%
4749     \else
4750       \ifxetex
4751         \def\Hy@driver{hxetex}%
4752       \else
4753         \ifvtexhtml
4754           \def\Hy@driver{hvtexhtm}%
4755           \def\MaybeStopEarly{%
4756             \Hy@Message{Stopped early}%
4757             \Hy@AtBeginDocument{%
4758               \PDF@FinishDoc
4759               \gdef\PDF@FinishDoc{}}%
4760           }%
4761           \endinput
4762         }%
4763       \else
4764         \ifvtexpdf
4765           \def\Hy@driver{hvtex}%
4766         \else
4767           \ifvtexps
4768             \def\Hy@driver{hvtex}%
4769           \else
4770             \ifx\HyOpt@DriverFallback\ltx@empty
4771               \let\Hy@driver\Hy@defaultdriver
4772               \def\HyOpt@DriverType{ (default)}%
4773             \else
4774               \begingroup
4775               \toks@{\expandafter{\HyOpt@DriverFallback}}%
4776               \edef\x{\endgroup
4777                 \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4778             }%

```

```

4779         \x
4780         \ifx\Hy@driver\ltx@empty
4781             \let\Hy@driver\Hy@defaultdriver
4782             \def\HyOpt@DriverType{ (default)}%
4783         \else
4784             \def\HyOpt@DriverType{ (fallback)}%
4785         \fi
4786     \fi
4787 \fi
4788 \fi
4789 \fi
4790 \fi
4791 \fi
4792 \ifx\Hy@driver\Hy@defaultdriver
4793     \def\Hy@temp{hdvwind}%
4794     \ifx\Hy@temp\Hy@driver
4795         \kvsetkeys{Hyp}{colorlinks}%
4796         \PassOptionsToPackage{dviwindo}{color}%
4797     \fi
4798 \fi
4799 \fi
4800 \else
4801     \def\HyOpt@DriverType{ (custom)}%
4802     \let\Hy@driver\HyOpt@CustomDriver
4803 \fi
4804 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4805 \chardef\Hy@VersionChecked=0 %
4806 \input{\Hy@driver.def}%
4807 \ifcase\Hy@VersionChecked
4808     \Hy@VersionCheck{\Hy@driver.def}%
4809 \fi
4810 \let\@unprocessedoptions\relax
4811 \Hy@RestoreCatcodes
4812 \Hy@DisableOption{tex4ht}%
4813 \Hy@DisableOption{pdftex}%
4814 \Hy@DisableOption{nativepdf}%
4815 \Hy@DisableOption{dvipdfm}%
4816 \Hy@DisableOption{dvipdfmx}%
4817 \Hy@DisableOption{dvipdfmx-outline-open}%
4818 \Hy@DisableOption{pdfmark}%
4819 \Hy@DisableOption{dvips}%
4820 \Hy@DisableOption{hypertex}%
4821 \Hy@DisableOption{vtex}%
4822 \Hy@DisableOption{vtexpdfmark}%
4823 \Hy@DisableOption{dviwindo}%
4824 \Hy@DisableOption{dvipsone}%
4825 \Hy@DisableOption{textures}%
4826 \Hy@DisableOption{latex2html}%
4827 \Hy@DisableOption{ps2pdf}%
4828 \Hy@DisableOption{xetex}%

```

```

4829 \Hy@DisableOption{driverfallback}%
4830 \Hy@DisableOption{customdriver}%
4831 \Hy@DisableOption{pdfversion}%
4832 }

```

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.

```

4833 \newif\ifHy@DvipdfmxOutlineOpen
4834 \ifxetex
4835   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4836   \else
4837     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4838     \Hy@DvipdfmxOutlineOpentruetrue
4839   \fi
4840 \fi
4841 \begingroup\expandafter\expandafter\expandafter\endgroup
4842 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4843 \else
4844   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4845     \Hy@DvipdfmxOutlineOpentruetrue
4846   \fi
4847 \fi

```

#### 15.4.2 Bookmarks

```

4848 \def\WriteBookmarks{0}
4849 \def\@bookmarkopenstatus#1{%
4850   \ifHy@bookmarksopen

```

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

```

4851   \ifnum#1<\expandafter\@firstofone\expandafter
4852     {\number\@bookmarksopenlevel} % explicit space
4853   \else
4854     -%
4855   \fi
4856 \else
4857   -%
4858 \fi
4859 }
4860 \ifHy@bookmarks
4861   \Hy@Info{Bookmarks ON}%
4862   \ifx\@pdfpagemode\@empty
4863     \def\@pdfpagemode{UseOutlines}%
4864   \fi
4865 \else
4866   \let\@bookmarkopenstatus\ltx@gobble
4867   \Hy@Info{Bookmarks OFF}%
4868   \Hy@AtEndOfPackage{%
4869     \global\let\ReadBookmarks\relax
4870     \global\let\WriteBookmarks\relax

```

```

4871 }%
4872 \ifx\@pdfpagemode\@empty
4873 \def\@pdfpagemode{UseNone}%
4874 \fi
4875 \fi
4876 \Hy@DisableOption{bookmarks}

    Add wrapper for setting standard catcodes (babel's shorthands).
4877 \def\Hy@CatcodeWrapper#1{%
4878 \let\Hy@endWrap\ltx@empty
4879 \def\TMP@EnsureCode##1##2{%
4880 \edef\Hy@endWrap{%
4881 \Hy@endWrap
4882 \catcode##1 \the\catcode##1\relax
4883 }%
4884 \catcode##1 ##2\relax
4885 }%
4886 \TMP@EnsureCode{10}{12}% ^^J
4887 \TMP@EnsureCode{33}{12}% !
4888 \TMP@EnsureCode{34}{12}% "
4889 \TMP@EnsureCode{36}{3}% $ (math)
4890 \TMP@EnsureCode{38}{4}% & (alignment)
4891 \TMP@EnsureCode{39}{12}% '
4892 \TMP@EnsureCode{40}{12}% (
4893 \TMP@EnsureCode{41}{12}% )
4894 \TMP@EnsureCode{42}{12}% *
4895 \TMP@EnsureCode{43}{12}% +
4896 \TMP@EnsureCode{44}{12}% ,
4897 \TMP@EnsureCode{45}{12}% -
4898 \TMP@EnsureCode{46}{12}% .
4899 \TMP@EnsureCode{47}{12}% /
4900 \TMP@EnsureCode{58}{12}% :
4901 \TMP@EnsureCode{59}{12}% ;
4902 \TMP@EnsureCode{60}{12}% <
4903 \TMP@EnsureCode{61}{12}% =
4904 \TMP@EnsureCode{62}{12}% >
4905 \TMP@EnsureCode{63}{12}% ?
4906 \TMP@EnsureCode{91}{12}% [
4907 \TMP@EnsureCode{93}{12}% ]
4908 \TMP@EnsureCode{94}{7}% ^ (superscript)
4909 \TMP@EnsureCode{95}{8}% _ (subscript)
4910 \TMP@EnsureCode{96}{12}% '
4911 \TMP@EnsureCode{124}{12}% |
4912 \TMP@EnsureCode{126}{13}% ~ (active)
4913 #1\relax
4914 \Hy@endWrap
4915 }

    \HyColor@UseColor expects a macro as argument. It contains the color spec-
    ification.
4916 \Hy@AtBeginDocument{%

```

```

4917 \ifHy@ocgcolorlinks
4918 \kvsetkeys{Hyp}{colorlinks}%
4919 \ifHy@pdfa
4920 \Hy@Warning{%
4921     PDF/A: Optional Content Groups are prohibited,\MessageBreak
4922     using 'colorlinks' instead of 'ocgcolorlinks'%
4923 }%
4924 \Hy@ocgcolorlinksfalse
4925 \fi
4926 \fi
4927 \ifHy@ocgcolorlinks
4928 \else
4929 \Hy@DisableOption{ocgcolorlinks}%
4930 \fi
4931 \ifHy@colorlinks
4932 \def\@pdfborder{0 0 0}%
4933 \let\@pdfborderstyle\@empty
4934 \ifHy@typexml
4935 \else
4936 \Hy@CatcodeWrapper{%
4937 \RequirePackage{color}%
4938 }%
4939 \fi
4940 \def\Hy@colorlink#1{%
4941 \begingroup
4942 \HyColor@UseColor#1%
4943 }%
4944 \def\Hy@endcolorlink{\endgroup}%
4945 \Hy@Info{Link coloring ON}%
4946 \else
4947 \ifHy@frenchlinks
4948 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4949 \def\Hy@endcolorlink{\endgroup}%
4950 \Hy@Info{French linking ON}%
4951 \else
for grouping consistency:
4952 \def\Hy@colorlink#1{\begingroup}%
4953 \def\Hy@endcolorlink{\endgroup}%
4954 \Hy@Info{Link coloring OFF}%
4955 \fi
4956 \fi
4957 \Hy@DisableOption{colorlinks}%
4958 \Hy@DisableOption{frenchlinks}%
4959 \ifHy@texht
4960 \long\def\@firstoffive#1#2#3#4#5{#1}%
4961 \long\def\@secondoffive#1#2#3#4#5{#2}%
4962 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4963 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4964 \long\def\@fifthoffive#1#2#3#4#5{#5}%

```



```

4965 \providecommand*\@safe@activetrue{%
4966 \providecommand*\@safe@activesfalse{%
4967 \def\T@ref#1{%
4968 \Hy@safe@activetrue
4969 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4970 \Hy@safe@activesfalse
4971 }%
4972 \def\T@pageref#1{%
4973 \Hy@safe@activetrue
4974 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4975 \Hy@safe@activesfalse
4976 }%
4977 \else
4978 \ifHy@typexml
4979 \else
4980 \Hy@CatcodeWrapper{%
4981 \RequirePackage{nameref}[2012/07/28]%
4982 }%
4983 \fi
4984 \fi
4985 \DeclareRobustCommand\ref{%
4986 \@ifstar\@refstar\T@ref
4987 }%
4988 \DeclareRobustCommand\pageref{%
4989 \@ifstar\@pagerefstar\T@pageref
4990 }%
4991 % \@ifclassloaded{memoir}{%
4992 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4993 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4994 % }%
4995 % }\ltx@secondoftwo
4996 % {%
4997 % \DeclareRobustCommand*\@nameref{%
4998 % \@ifstar\@mem@titlerefno link\@mem@titleref
4999 % }%
5000 % }{%
5001 \DeclareRobustCommand*\@nameref{%
5002 \@ifstar\@namerefstar\T@nameref
5003 }%
5004 % }%
5005 }
5006 \Hy@AtBeginDocument{%
5007 \ifHy@texht
5008 \else
5009 \Hy@CatcodeWrapper\ReadBookmarks
5010 \fi
5011 }
5012 \ifHy@backref
5013 \RequirePackage{backref}%

```

```

5014 \else
5015   \let\Hy@backout\@gobble
5016 \fi
5017 \Hy@DisableOption{backref}
5018 \Hy@DisableOption{pagebackref}
5019 \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.

```

5020 \begingroup
5021   \endlinechar=-1 %
5022   \catcode'\^^A=14 %
5023   \catcode'\^^M\active
5024   \catcode'\%\active
5025   \catcode'\#\active
5026   \catcode'\_\active
5027   \catcode'\$\active
5028   \catcode'\&\active
5029   \gdef\hyper@normalise{^^A
5030     \begingroup
5031       \catcode'\^^M\active
5032       \def^^M{ }^^A
5033       \catcode'\%\active
5034       \let%\@percentchar
5035       \let\%\@percentchar
5036       \catcode'\#\active
5037       \def#{\hyper@hash}^^A
5038       \def#{\hyper@hash}^^A
5039       \@makeother\&^^A
5040       \edef&{\string&}^^A
5041       \edef\&{\string&}^^A
5042       \edef\textunderscore{\string_}^^A
5043       \let_\textunderscore
5044       \catcode'\_\active
5045       \let_\textunderscore
5046       \let~\hyper@tilde
5047       \let~\hyper@tilde
5048       \let\textasciitilde\hyper@tilde
5049       \let\\\@backslashchar
5050       \edef${\string$}^^A
5051       \Hy@safe@activestrue
5052       \hyper@n@rmalise

```

```

5053 }^^A
5054 \catcode'\#=6 ^^A
5055 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
5056 \gdef\hyper@n@rmalise#1#2{^^A
5057 \def\Hy@tempa{#2}^^A
5058 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
5059 \ltx@ReturnAfterElseFi{^^A
5060 \hyper@@normalise{#1}^^A
5061 }^^A
5062 \else
5063 \ltx@ReturnAfterFi{^^A
5064 \hyper@@normalise{#1}{#2}^^A
5065 }^^A
5066 \fi
5067 }^^A
5068 \gdef\hyper@@normalise#1#2{^^A
5069 \edef\Hy@tempa{^^A
5070 \endgroup
5071 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
5072 }^^A
5073 \Hy@tempa
5074 }^^A
5075 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
5076 #1^^A
5077 \ifx\limits#2\limits
5078 \else
5079 \ltx@ReturnAfterFi{^^A
5080 \Hy@RemovePercentCr #2\@nil
5081 }^^A
5082 \fi
5083 }^^A
5084 \endgroup
5085 \providecommand*\hyper@chars{%
5086 \let\#\hyper@hash
5087 \let\%\@percentchar
5088 \Hy@safe@activetrue
5089 }

5090 \def\hyperlink#1#2{%
5091 \hyper@@link{#1}{#2}%
5092 }

5093 \def\Hy@VerboseLinkStart#1#2{%
5094 \ifHy@verbose
5095 \begingroup
5096 \Hy@safe@activetrue
5097 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
5098 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
5099 \xdef\Hy@VerboseGlobalTemp{%
5100 \Hy@VerboseGlobalTemp, %
5101 line \the\inputlineno

```

```

5102     }%
5103 \endgroup
5104 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
5105 \@onelevel@sanitize\Hy@VerboseLinkInfo
5106 \fi
5107 }

5108 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
5109 \def\Hy@VerboseLinkStop{%
5110   \ifHy@verbose
5111     \begingroup
5112     \edef\x{\endgroup
5113       \write\m@ne{%
5114         Package ‘hyperref’ Info: %
5115         End of reference \Hy@VerboseLinkInfo.%
5116       }%
5117     }%
5118     \x
5119   \fi
5120 }

5121 \def\Hy@VerboseAnchor#1{%
5122   \ifHy@verbose
5123     \begingroup
5124     \Hy@safe@activetrue
5125     \Hy@Info{Anchor ‘\HyperDestNameFilter{#1}’}%
5126   \endgroup
5127 \fi
5128 }

5129 \def\Hy@AllowHyphens{%
5130   \relax
5131   \ifhmode
5132     \penalty\@M
5133     \hskip\z@skip
5134   \fi
5135 }

5136 \DeclareRobustCommand*\href{[1][]{%
5137   \begingroup
5138   \setkeys{href}{#1}%
5139   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
5140 }
5141 \def\Hy@href#1{%
5142   \hyper@normalise\href@
5143 }
5144 \begingroup
5145 \catcode'\$=6 %
5146 \catcode'\#=12 %
5147 \gdef\href@\$1{\expandafter\href@split$1##\}%
5148 \gdef\href@split$1##$2##$3\\$4{%
5149   \hyper@@link{$1}{$2}{$3}{$4}%

```

```

5150 \endgroup
5151 }%
5152 \endgroup

```

Option ‘page’.

```

5153 \define@key{href}{page}{%
5154 \def\Hy@href@page{#1}%
5155 }
5156 \let\Hy@href@page\@empty
5157 \newcount\c@Hy@tempcnt
5158 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
5159 \def\Hy@MakeRemoteAction{%
5160 \ifx\Hy@href@page\@empty
5161 \def\Hy@href@page{0}%
5162 \else
5163 \setcounter{Hy@tempcnt}{\Hy@href@page}%
5164 \ifnum\c@Hy@tempcnt<\@ne
5165 \Hy@Warning{%
5166 Invalid page number (\theHy@tempcnt)\MessageBreak
5167 for remote PDF file.\MessageBreak
5168 Using page 1%
5169 }%
5170 \def\Hy@href@page{0}%
5171 \else
5172 \global\advance\c@Hy@tempcnt\m@ne
5173 \edef\Hy@href@page{\theHy@tempcnt}%
5174 \fi
5175 \fi

```

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

```

5176 \ifx\Hy@href@nextactionraw\@empty
5177 \else
5178 \Hy@pdfnewwindowsettrue
5179 \Hy@pdfnewwindowtrue
5180 \fi
5181 }

```

Option ‘pdfremotestartview’.

```

5182 \define@key{href}{pdfremotestartview}{%
5183 \setkeys{Hyp}{pdfremotestartview={#1}}%
5184 }

```

Option ‘pdfnewwindow’.

```

5185 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
5186 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

5187 \newif\ifHy@href@ismap
5188 \define@key{href}{ismap}[true]{%
5189 \ltx@ifundefined{Hy@href@ismap#1}{%

```

```

5190 \Hy@Error{%
5191   Invalid value (#1) for key 'ismap'.\MessageBreak
5192   Permitted values are 'true' or 'false'.\MessageBreak
5193   Ignoring 'ismap'%
5194 } \@ehc
5195 }{%
5196   \csname Hy@href@ismap#1\endcsname
5197 }%
5198 }

```

Option 'nextactionraw'.

```

5199 \let\Hy@href@nextactionraw\@empty
5200 \define@key{href}{nextactionraw}{%
5201   \edef\Hy@href@nextactionraw{#1}%
5202   \ifx\Hy@href@nextactionraw\@empty
5203     \else
5204       \Hy@Match\Hy@href@nextactionraw}{%
5205         ^(\HyPat@ObjRef/|<<.*[/S[ /.+>>|)%
5206         \[( ?\HyPat@ObjRef/|<<.*[/S[ /.+>>)+ ?)]$%
5207       }{}{%
5208         \Hy@Warning{Invalid value for 'nextactionraw':\MessageBreak
5209           \Hy@href@nextactionraw\MessageBreak
5210           The action is discarded%
5211         }%
5212       }%
5213     \ifx\Hy@href@nextactionraw\@empty
5214       \else
5215         \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
5216       \fi
5217     \fi
5218 }
5219 \def\HyPat@ObjRef/{.+}

```

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

```

5220 \RequirePackage{url}
5221 \let\HyOrg@url\url
5222 \def\Hurl{\begingroup \Url}
5223 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
5224 \def\nolinkurl@#1{\Hurl{#1}}
5225 \DeclareRobustCommand*\url{\hyper@normalise\url@}
5226 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

5227 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
5228 \providecommand\hyper@image[2]{#2}

5229 \def\hypertarget#1#2{%
5230   \ifHy@nesting
5231     \hyper@@anchor{#1}{#2}%
5232   \else
5233     \hyper@@anchor{#1}{\relax}#2%
5234   \fi
5235 }

```

`\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.

```

5236 \DeclareRobustCommand*\hyperref{%
5237   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
5238 }
5239 \def\Hy@babelnormalise#1[#2]{%
5240   \begingroup
5241     \Hy@safe@activetrue
5242     \edef\Hy@tempa{%
5243       \endgroup
5244       \noexpand#1[#2]}%
5245   }%
5246   \Hy@tempa
5247 }
5248 \def\@hyperref{\hyper@normalise\@hyperref}
5249 \def\@hyperref#1#2#3{%
5250   \edef\ref@one{\ifx\#2\#2\else#2.\fi#3}%
5251   \expandafter\tryhyper@link\ref@one\{#1}%
5252 }
5253 \def\tryhyper@link#1\#2{%
5254   \hyper@@link{#2}{#1}%
5255 }
5256 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
5257 \def\@hyperdef#1#2#3{%, category, name, text
5258   \ifx\#1\%
5259     \def\Hy@AnchorName{#2}%
5260   \else
5261     \def\Hy@AnchorName{#1.#2}%
5262   \fi
5263   \ifHy@nesting
5264     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
5265   \else
5266     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
5267   \fi
5268 }

```

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

```

5269 \def\label@hyperref[#1]{%
5270   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
5271 }%
5272 \def\label@@hyperref#1#2#3{%
5273   \ifx#1\relax
5274     \protect\G@refundefinedtrue

```

```

5275 \@latex@warning{%
5276   Hyper reference '#2' on page \thepage \space undefined%
5277 }%
5278 \begingroup
5279   #3%
5280 \endgroup
5281 \else
5282   \hyper@@link{\expandafter\@fifthoffive#1}%
5283   {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5284 \fi
5285 }
5286 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5287                               % anchor text
5288   \@bsphack
5289   \ifx\\#2\\%
5290     \def\Hy@AnchorName{#3}%
5291   \else
5292     \def\Hy@AnchorName{#2.#3}%
5293   \fi
5294   \if@filesw
5295     \protected@write\@auxout{}{%
5296       \string\newlabel{#1}{#2}{#3}{\Hy@AnchorName}{#4}}%
5297   }%
5298   \fi
5299   \@esphack
5300   \ifHy@nesting
5301     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5302   \else
5303     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5304   \fi
5305 }

```

## 16.1 Link box support for XeTeX

```

5306 \newdimen\XeTeXLinkMargin
5307 \setlength{\XeTeXLinkMargin}{2pt}
5308 \ifxetex
5309   \font\XeTeXLink@font=pzdr at 1sp\relax
5310   \newcommand*\XeTeXLink@space{%
5311     \begingroup
5312       \XeTeXLink@font
5313       \@xxxii
5314     \endgroup
5315   }%
5316   \newcommand{\XeTeXLinkBox}[1]{%
5317     \begingroup
5318       \leavevmode
5319       \sbox\z@{#1}%
5320     \begingroup
5321       \dimen@=\dp\z@

```



```

5322 \advance\dimen@\XeTeXLinkMargin
5323 \setbox\tw@=\llap{%
5324 \hb@xt@\XeTeXLinkMargin{%
5325 \lower\dimen@\hbox{\XeTeXLink@space}%
5326 \hss
5327 }%
5328 }%
5329 \dp\tw@=\dp\z@
5330 \ht\tw@=\ht\z@
5331 \copy\tw@
5332 \endgroup
5333 \copy\z@
5334 \dimen@=\ht\z@
5335 \advance\dimen@\XeTeXLinkMargin
5336 \setbox\tw@=\rlap{%
5337 \hb@xt@\XeTeXLinkMargin{%
5338 \hss
5339 \raise\dimen@\hbox{\XeTeXLink@space}%
5340 }%
5341 }%
5342 \dp\tw@=\dp\z@
5343 \ht\tw@=\ht\z@
5344 \copy\tw@
5345 \endgroup
5346 }%
5347 \else
5348 \newcommand*{\XeTeXLinkBox}[1]{%
5349 \begingroup
5350 \leavevmode
5351 \sbox\z@{#1}%
5352 \copy\z@
5353 \endgroup
5354 }%
5355 \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, it's an internal link, otherwise we need to open another file or a URL. A link start has a type, and a URL.

```

5356 \def\hyper@link{\let\Hy@reserved@a\relax
5357 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5358 }
5359 % #1: type
5360 % #2: URL
5361 % #3: destination name
5362 % #4: text
5363 \def\hyper@link@[#1]#2#3#4{%

```

```

5364 \ltx@ifempty{#4}{% link text
5365   \Hy@Warning{Suppressing empty link}%
5366 }{%
5367   \begingroup
5368     \protected@edef\Hy@tempa{#2}%
5369     \edef\Hy@tempb{#3}%
5370     \ifx\Hy@tempa\ltx@empty
5371       \ifx\Hy@tempb\ltx@empty
5372         \Hy@Warning{Suppressing link with empty target}%
5373         \toks@{%
5374           \endgroup
5375           \ltx@secondoftwo
5376         }%
5377       \else
5378         \toks@{%
5379           \endgroup
5380           \hyper@link{#1}%
5381         }%
5382       \fi
5383     \else
5384       \toks@{%
5385         \endgroup
5386         \expandafter\hyper@readexternallink#2\\{#1}%
5387       }%
5388     \fi
5389     \Hy@safe@activesfalse
5390     \toks@\expandafter{%
5391       \the\expandafter\toks@
5392       \expandafter{\Hy@tempb}{#4}%
5393     }%
5394     \the\toks@
5395   }%
5396 }

```

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.

```

5397 \def\hyper@readexternallink#1\\#2#3#4{%
5398   \begingroup
5399   \let\\\relax
5400   \expandafter\endgroup
5401   \expandafter\@@hyper@@readexternallink#1\\{#2}{#3}{#4}%
5402 }
5403 \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.

```
5404 \@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
5405 }
```

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

```
5406 \def\@pdftempwordfile{file}%
5407 \def\@pdftempwordrun{run}%
5408 \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:

```
5409 \ifx\\\#6\\\%
5410 \@hyper@linkfile file:#7\\\{#3}{#2}{#7}%
5411 \else
5412 \ifx\\\#4\\\%
5413 \@hyper@linkfile file:#7\\\{#3}{#2}{#7}%
5414 \else
```

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

```
5415 \def\@pdftempa{#4}%
5416 \ifx\@pdftempa\@pdftempwordfile
5417 \@hyper@linkfile#7\\\{#3}{#2}{#7}%
5418 \else
```

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

```
5419 \ifx\@pdftempa\@pdftempwordrun
5420 \ifHy@pdfa
5421 \Hy@Error{%
5422 PDF/A: Launch action is prohibited%
5423 }\@ehc
5424 \begingroup
5425 \leavevmode
5426 #2%
5427 \endgroup
5428 \else
5429 \@hyper@launch#7\\\{#3}{#2}%
5430 \fi
5431 \else
```

otherwise its a URL

```
5432 \@hyper@linkurl{#3}{#7\ifx\\\#2\\\else\hyper@hash#2\fi}%
```

```

5433     \fi
5434     \fi
5435   \fi
5436 \fi
5437 }

```

By default, turn run: into file:

```

5438 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
5439   \hyper@linkurl{#2}{%
5440     \Hy@linkfileprefix
5441     #1%
5442     \ifx\\#3\\%
5443     \else
5444       \hyper@hash
5445       #3%
5446     \fi
5447   }%
5448 }

```

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

```

5449 \def\@hyper@linkfile file:#1\\#2#3#4{%
5450   %file url,link string, name, original uri
5451   \filename@parse{#1}%
5452   \ifx\filename@ext\relax
5453     \edef\filename@ext{\XR@ext}%
5454   \fi
5455   \def\use@file{\filename@area\filename@base.\filename@ext}%
5456   \Hy@IfStringEndsWith\filename@ext\XR@ext{%
5457     \hyper@linkfile{#2}{\use@file}{#3}%
5458   }{%
5459     \ifx\@baseurl\@empty
5460       \hyper@linkurl{#2}{%
5461         #4\ifx\\#3\\%
5462       }%
5463     \else
5464       \hyper@linkurl{#2}{\use@file\ifx\\#3\\%
5465     \fi
5466   }%
5467 }

5468 \def\Hy@IfStringEndsWith#1#2{%
5469   \begingroup
5470   \edef\x{#1}%
5471   \@onelevel@sanitize\x
5472   \edef\x{.\x$}%
5473   \edef\y{#2}%
5474   \@onelevel@sanitize\y
5475   \edef\y{.\y$}%
5476   \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5477     \endgroup

```

```

5478 \ifx\relax##2\relax
5479 \expandafter\ltx@secondoftwo
5480 \else
5481 \expandafter\ltx@firstoftwo
5482 \fi
5483 }%
5484 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5485 }

5486 \def\Hy@StringLocalhost{localhost}
5487 \@onelevel@sanitize\Hy@StringLocalhost
5488 \def\Hy@CleanupFile#1{%
5489 \edef#1{#1}%
5490 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5491 }
5492 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5493 \begingroup
5494 \toks@{\endgroup}%
5495 \def\x{#1}%
5496 \ifx\x\@empty
5497 \def\x{#2}%
5498 \ifx\x\@empty
5499 \toks@{\endgroup\def#5{/#3}}%
5500 \else
5501 \@onelevel@sanitize\x
5502 \ifx\x\Hy@StringLocalhost
5503 \toks@{\endgroup\def#5{/#3}}%
5504 \fi
5505 \fi
5506 \fi
5507 \the\toks@
5508 }

```

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.

```

5509 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5510 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5511 \ifx\\#1\\%
5512 #2\Hy@Warning{Ignoring empty anchor}%
5513 \else
5514 \def\anchor@spot{#2#3}%
5515 \let\put@me@back\@empty
5516 \ifx\relax#2\relax
5517 \else
5518 \ifHy@nesting

```

```

5519 \else
5520 \ifcat a\noexpand#2\relax
5521 \else
5522 \ifcat 0\noexpand#2 \relax
5523 \else
5524 % \typeout{Anchor start is not alphanumeric %
5525 % on input line\the\inputlineno%
5526 % }%
5527 \let\anchor@spot\@empty
5528 \def\put@me@back{#2#3}%
5529 \fi
5530 \fi
5531 \fi
5532 \fi
5533 \ifHy@activeanchor
5534 \anchor@spot
5535 \else
5536 \hyper@anchor{#1}%
5537 \fi
5538 \expandafter\put@me@back
5539 \fi
5540 \let\anchor@spot\@empty
5541 }
5542 \let\anchor@spot\ltx@empty

```

## 18 Option ‘destlabel’

```

5543 \ifHy@destlabel

\hyper@newdestlabel

5544 \def\hyper@newdestlabel#1#2{%
5545 \begingroup
5546 \Hy@safe@activetrue
5547 \edef\x{\endgroup
5548 \noexpand\@newl@bel{HyDL}{#1}{#2}%
5549 }%
5550 \x
5551 }%

\hyper@destlabel@hook

5552 \providecommand*\hyper@destlabel@hook{}%

\Hy@DestRename

5553 \newcommand*{\Hy@DestRename}[2]{%
5554 \ltx@ifundefined{HyDL!#1}{%
5555 \begingroup
5556 \Hy@safe@activetrue
5557 \edef\dest@name{#1}%
5558 \edef\label@name{#2}%

```

```

5559 \hyper@destlabel@hook
5560 \Hy@IsNotEmpty{dest@name}{%
5561 \Hy@IsNotEmpty{label@name}{%
5562 \global\expandafter
5563 \let\csname HyDL!#1\endcsname\ltx@empty
5564 \if@filesw
5565 \protected@write\@auxout{}{%
5566 \string\hyper@newdestlabel
5567 {#1}%
5568 {\label@name}%
5569 }%
5570 \fi
5571 }%
5572 }%
5573 \endgroup
5574 }{}%
5575 }%

```

\HyperDestRename

```

5576 \newcommand*\HyperDestRename[2]{%
5577 \AtBeginDocument{%
5578 \Hy@DestRename{#1}{#2}%
5579 }%
5580 }%
5581 \AtBeginDocument{%
5582 \let\HyperDestRename\Hy@DestRename
5583 }%

```

\Hy@IsNotEmpty

```

5584 \def\Hy@IsNotEmpty#1{%
5585 \ltx@ifundefined{#1}\ltx@gobble{%
5586 \expandafter\ifx\csname#1\endcsname\ltx@empty
5587 \expandafter\ltx@gobble
5588 \else
5589 \expandafter\ltx@firstofone
5590 \fi
5591 }%
5592 }%

5593 \ltx@GlobalAppendToMacro\label@hook{%
5594 \HyperDestRename\@currentHref\label@name
5595 }%

```

\HyperDestLabelReplace

```

5596 \def\HyperDestLabelReplace#1{%
5597 \ltx@ifundefined{HyDL@#1}{%
5598 #1%
5599 }{%
5600 \csname HyDL@#1\endcsname
5601 }%

```

```

5602 }%

\HyperDestNameFilter
5603 \let\HyperDestNameFilter\HyperDestLabelReplace
5604 \else

\hyper@newdestlabel
5605 \let\hyper@newdestlabel\ltx@gobbletwo

\HyperDestLabelReplace
5606 \let\HyperDestLabelReplace\ltx@firstofone

\HyperDestRename
@gobbletwo

5607 \fi
5608 \Hy@DisableOption{destlabel}

Provide a dummy default definition of \hyper@newdestlabel inside the .aux
files.
5609 \AddLineBeginAux{%
5610 \string\providecommand\string\hyper@newdestlabel[2]{}%
5611 }

```

## 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.

```

5612 \let\htmladdimg\hyperimage
5613 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5614 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5615 \def\htmlref#1#2{% anchor text, label
5616 \label@hyperref[{#2}]{#1}%
5617 }

```

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.

```

5618 \def\@latextohtmlX{%
5619 \let\hhyperref\hyperref
5620 \def\hyperref##1##2##3##4{% anchor text for HTML
5621 % text to print before label in print

```



```

5622             % label
5623             % post-label text in print
5624     ##2\ref{##4}##3%
5625 }%
5626 }

```

## 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.

```

5627 \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

```

```

5628 \def\HyField@NewFlag#1#2{%
5629   \lowercase{\HyField@NewOption{#2}}%
5630   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5631 }

```

```

\HyField@NewFlagOnly

```

```

5632 \def\HyField@NewFlagOnly#1#2{%
5633   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5634 }

```

```

\HyField@NewOption #1: option name

```

```

5635 \def\HyField@NewOption#1{%
5636   \expandafter\newif\csname ifFld@#1\endcsname
5637   \define@key{Field}{#1}[true]{%
5638     \lowercase{\Field@boolkey{##1}}{#1}%
5639   }%
5640 }

```

```

\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

```

5641 \def\HyField@NewBitsetFlag#1#2#3#4{%
5642   \begingroup
5643   \count@=#4\relax
5644   \advance\count@\m@ne
5645   \def\x##1{%
5646     \endgroup
5647     \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5648     \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5649       \expandafter\edef\csname HyField@#3@#1\endcsname{%
5650         (\number#4) #2%
5651       }%
5652     \else
5653       \expandafter\edef\csname HyField@#3@#1\endcsname{%
5654         \csname HyField@#3@#1\endcsname
5655         /#2%
5656       }%
5657     \fi
5658   }%
5659   \expandafter\x\expandafter{\the\count@}%
5660 }

```

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

```

5661 \def\HyField@UseFlag#1#2{%
5662   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5663 }

```

\HyField@@UseFlag

```

5664 \def\HyField@@UseFlag#1#2{%
5665   \bitsetSetValue{HyField@#2}{%
5666     \csname HyField@#2@#1\endcsname
5667   }{%
5668     \csname ifFld@#1\endcsname 1\else 0\fi
5669   }%
5670 }

```

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

```

5671 \def\HyField@SetFlag#1#2{%
5672   \lowercase{\HyField@@SetFlag{#2}}{#1}%
5673 }

```

\HyField@@SetFlag

```

5674 \def\HyField@@SetFlag#1#2{%
5675   \bitsetSetValue{HyField@#2}{%
5676     \csname HyField@#2@#1\endcsname
5677   }{1}%
5678 }

```

\HyField@PrintFlags

```
5679 \def\HyField@PrintFlags#1#2{%
5680   \ifHy@verbose
5681     \begingroup
5682     \let\Hy@temp\@empty
5683     \let\MessageBreak\relax
5684     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5685     \bitsetGetSetBitList{HyField@#1}\do{%
5686       \edef\Hy@temp{%
5687         \Hy@temp
5688         \csname HyField@#1@\x\endcsname\MessageBreak
5689       }%
5690     }%
5691   \edef\x{\endgroup
5692     \noexpand\Hy@Info{%
5693       Field flags: %
5694       \expandafter\ifx\@car#1\@nil S\else/\fi
5695       #1 %
5696       \bitsetGetDec{HyField@#1} %
5697       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5698       \Hy@temp
5699     for #2%
5700   }%
5701 } \x
5702 \fi
5703 }
```

### 20.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
5704 \HyField@NewFlag{Ff}{ReadOnly}{1}
5705 \HyField@NewFlag{Ff}{Required}{2}
5706 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
5707 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5708 \HyField@NewFlag{Ff}{Radio}{16}
5709 \HyField@NewFlag{Ff}{Pushbutton}{17}
5710 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
5711 \HyField@NewFlag{Ff}{Multiline}{13}
5712 \HyField@NewFlag{Ff}{Password}{14}
5713 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5714 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5715 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5716 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5717 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```

5718 \HyField@NewFlag{Ff}{Combo}{18}
5719 \HyField@NewFlag{Ff}{Edit}{19}
5720 \HyField@NewFlag{Ff}{Sort}{20}
5721 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5722 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5723 \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.

```

5724 \newif\ifFld@popdown
5725 \define@key{Field}{popdown}[true]{%
5726   \lowercase{\Field@boolkey{#1}}{popdown}%
5727 }

```

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.

```

5728 \HyField@NewFlag{F}{Invisible}{1}
5729 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5730 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5731 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5732 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5733 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5734 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5735 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5736 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5737 \ifHy@pdfa
5738   \def\HyField@PDFAFflagWarning#1#2{%
5739     \Hy@Warning{%
5740       PDF/A: Annotation flag ‘#1’ must\MessageBreak
5741       be set to ‘#2’%
5742     }%
5743   }%
5744   \Fld@invisiblefalse
5745   \def\Fld@invisibletrue{%
5746     \HyField@PDFAFflagWarning{invisible}{false}%
5747   }%
5748   \Fld@hiddenfalse
5749   \def\Fld@hiddentrue{%
5750     \HyField@PDFAFflagWarning{hidden}{false}%
5751   }%
5752   \Fld@printtrue
5753   \def\Fld@printfalse{%
5754     \HyField@PDFAFflagWarning{print}{true}%
5755   }%
5756   \Fld@nozoomtrue
5757   \def\Fld@nozoomfalse{%

```

```

5758 \HyField@PDFAFIagWarning{nozoom}{true}%
5759 }%
5760 \Fld@norotate>true
5761 \def\Fld@norotatefalse{%
5762 \HyField@PDFAFIagWarning{norotate}{true}%
5763 }%
5764 \Fld@noview>false
5765 \def\Fld@noviewtrue{%
5766 \HyField@PDFAFIagWarning{noview}{false}%
5767 }%
5768 \fi

```

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

```

5769 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5770 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5771 \HyField@NewFlag{Submit}{GetMethod}{4}
5772 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5773 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5774 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5775 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5776 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5777 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5778 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5779 \HyField@NewFlag{Submit}{ExclFKey}{12}
5780 \HyField@NewFlag{Submit}{EmbedForm}{14}

5781 \define@key{Field}{export}{%
5782 \lowercase{\def\Hy@temp{#1}}%
5783 \@ifundefined{Fld@export@Hy@temp}{%
5784 \@onelevel@sanitize\Hy@temp
5785 \Hy@Error{%
5786 Unknown export format '\Hy@temp'\MessageBreak
5787 Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5788 } \@ehc
5789 }{%
5790 \let\Fld@export\Hy@temp
5791 }%
5792 }
5793 \def\Fld@export{fdf}
5794 \@namedef{Fld@export@fdf}{0}%
5795 \@namedef{Fld@export@html}{1}%
5796 \@namedef{Fld@export@xdf}{2}%
5797 \@namedef{Fld@export@pdf}{3}%

```

## 20.1.2 Set submit flags

\HyField@FlagsSubmit

```

5798 \def\HyField@FlagsSubmit{%
5799 \bitsetReset{HyField@Submit}%

```

```

5800 \ifcase\@nameuse{Fld@export@\Fld@export} %
5801 % FDF
5802 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5803 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5804 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5805 \HyField@UseFlag{Submit}{IncludeAnnotations}%
5806 \HyField@UseFlag{Submit}{CanonicalFormat}%
5807 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5808 \HyField@UseFlag{Submit}{ExclFKey}%
5809 \HyField@UseFlag{Submit}{EmbedForm}%
5810 \or % HTML
5811 \HyField@SetFlag{Submit}{ExportFormat}%
5812 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5813 \HyField@UseFlag{Submit}{GetMethod}%
5814 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5815 \HyField@UseFlag{Submit}{CanonicalFormat}%
5816 \or % XFDF
5817 \HyField@SetFlag{Submit}{XFDF}%
5818 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5819 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5820 \HyField@UseFlag{Submit}{CanonicalFormat}%
5821 \or % PDF
5822 \HyField@SetFlag{Submit}{SubmitPDF}%
5823 \HyField@UseFlag{Submit}{GetMethod}%
5824 \fi
5825 \HyField@PrintFlags{Submit}{submit button field}%
5826 \bitsetIsEmpty{HyField@Submit}{%
5827 \let\Fld@submitflags\ltx@empty
5828 }{%
5829 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5830 }%
5831 }

```

### 20.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5832 \def\HyField@FlagsAnnot#1{%
5833 \bitsetReset{HyField@F}%
5834 \HyField@UseFlag{F}{Invisible}%
5835 \HyField@UseFlag{F}{Hidden}%
5836 \HyField@UseFlag{F}{Print}%
5837 \HyField@UseFlag{F}{NoZoom}%
5838 \HyField@UseFlag{F}{NoRotate}%
5839 \HyField@UseFlag{F}{NoView}%
5840 \HyField@UseFlag{F}{Locked}%
5841 \HyField@UseFlag{F}{ToggleNoView}%
5842 \HyField@UseFlag{F}{LockedContents}%
5843 \HyField@PrintFlags{F}{#1}%
5844 \bitsetIsEmpty{HyField@F}{%

```

```

5845 \let\Fld@annotflags\ltx@empty
5846 }{%
5847 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
5848 }%
5849 }

```

#### 20.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5850 \def\HyField@FlagsPushButton{%
5851 \HyField@FlagsAnnot{push button field}%
5852 \bitsetReset{HyField@Ff}%
5853 \HyField@UseFlag{Ff}{ReadOnly}%
5854 \HyField@UseFlag{Ff}{Required}%
5855 \HyField@UseFlag{Ff}{NoExport}%
5856 \HyField@SetFlag{Ff}{Pushbutton}%
5857 \HyField@PrintFlags{Ff}{push button field}%
5858 \bitsetIsEmpty{HyField@Ff}{%
5859 \let\Fld@flags\ltx@empty
5860 }{%
5861 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5862 }%
5863 }

```

#### 20.1.5 Check box field

\HyField@FlagsCheckBox

```

5864 \def\HyField@FlagsCheckBox{%
5865 \HyField@FlagsAnnot{check box field}%
5866 \bitsetReset{HyField@Ff}%
5867 \HyField@UseFlag{Ff}{ReadOnly}%
5868 \HyField@UseFlag{Ff}{Required}%
5869 \HyField@UseFlag{Ff}{NoExport}%
5870 \HyField@PrintFlags{Ff}{check box field}%
5871 \bitsetIsEmpty{HyField@Ff}{%
5872 \let\Fld@flags\ltx@empty
5873 }{%
5874 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5875 }%
5876 }

```

#### 20.1.6 Radio button field

\HyField@FlagsRadioButton

```

5877 \def\HyField@FlagsRadioButton{%
5878 \HyField@FlagsAnnot{radio button field}%
5879 \bitsetReset{HyField@Ff}%
5880 \HyField@UseFlag{Ff}{ReadOnly}%
5881 \HyField@UseFlag{Ff}{Required}%

```

```

5882 \HyField@UseFlag{Ff}{NoExport}%
5883 \HyField@UseFlag{Ff}{NoToggleToOff}%
5884 \HyField@SetFlag{Ff}{Radio}%
5885 \HyField@UseFlag{Ff}{RadiosInUnison}%
5886 \HyField@PrintFlags{Ff}{radio button field}%
5887 \bitsetIsEmpty{HyField@Ff}{%
5888   \let\Fld@flags\ltx@empty
5889 }{%
5890   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5891 }%
5892 }

```

### 20.1.7 Text fields

\HyField@FlagsText

```

5893 \def\HyField@FlagsText{%
5894   \HyField@FlagsAnnot{text field}%
5895   \bitsetReset{HyField@Ff}%
5896   \HyField@UseFlag{Ff}{ReadOnly}%
5897   \HyField@UseFlag{Ff}{Required}%
5898   \HyField@UseFlag{Ff}{NoExport}%
5899   \HyField@UseFlag{Ff}{Multiline}%
5900   \HyField@UseFlag{Ff}{Password}%
5901   \HyField@UseFlag{Ff}{FileSelect}%
5902   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5903   \HyField@UseFlag{Ff}{DoNotScroll}%
5904   \ifFld@comb
5905     \ifcase0\ifFld@multiline
5906       \else\ifFld@password
5907       \else\ifFld@fileselect
5908       \else 1\fi\fi\fi\relax
5909     \Hy@Error{%
5910       Field option ‘comb’ cannot used together with\MessageBreak
5911       ‘multiline’, ‘password’, or ‘fileselect’%
5912     }\@ehc
5913   \else
5914     \HyField@UseFlag{Ff}{Comb}%
5915   \fi
5916 \fi
5917 \HyField@UseFlag{Ff}{RichText}%
5918 \HyField@PrintFlags{Ff}{text field}%
5919 \bitsetIsEmpty{HyField@Ff}{%
5920   \let\Fld@flags\ltx@empty
5921 }{%
5922   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5923 }%
5924 }

```



### 20.1.8 Choice fields

`\HyField@FlagsChoice`

```

5925 \def\HyField@FlagsChoice{%
5926   \HyField@FlagsAnnot{choice field}%
5927   \bitsetReset{HyField@Ff}%
5928   \HyField@UseFlag{Ff}{ReadOnly}%
5929   \HyField@UseFlag{Ff}{Required}%
5930   \HyField@UseFlag{Ff}{NoExport}%
5931   \HyField@UseFlag{Ff}{Combo}%
5932   \ifFld@combo
5933     \HyField@UseFlag{Ff}{Edit}%
5934   \fi
5935   \HyField@UseFlag{Ff}{Sort}%
5936   \HyField@UseFlag{Ff}{MultiSelect}%
5937   \ifFld@combo
5938     \ifFld@edit
5939       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5940     \fi
5941   \fi
5942   \HyField@UseFlag{Ff}{CommitOnSelChange}%
5943   \HyField@PrintFlags{Ff}{choice field}%
5944   \bitsetIsEmpty{HyField@Ff}{%
5945     \let\Fld@flags\ltx@empty
5946   }{%
5947     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5948   }%
5949 }
```

### 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`.

```

5950 \def\HyField@PDFChoices#1{%
5951   \begingroup
5952   \global\let\Fld@choices\ltx@empty
5953   \let\HyTmp@optlist\ltx@empty
5954   \let\HyTmp@optitem\relax
5955   \count@=0 %
5956   \kv@parse{#1}{%
5957     \Hy@pdfstringdef\kv@key\kv@key
5958     \ifx\kv@value\relax
5959       \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5960         \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5961       \else
5962         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5963       \fi

```

```

5964 \else
5965 \Hy@pdfstringdef\kv@value\kv@value
5966 \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5967 \fi
5968 \edef\HyTmp@optlist{%
5969 \HyTmp@optlist
5970 \HyTmp@optitem{\the\count@}{\kv@key}0%
5971 }%
5972 \advance\count@ by 1 %
5973 \@gobbletwo
5974 }%
5975 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5976 \ifFld@multiselect
5977 \HyField@@PDFChoices{DV}\Fld@default
5978 \HyField@@PDFChoices{V}\Fld@value
5979 \else
5980 \ifx\Fld@default\relax
5981 \else
5982 \pdfstringdef\Hy@gtemp\Fld@default
5983 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5984 \fi
5985 \ifx\Fld@value\relax
5986 \else
5987 \pdfstringdef\Hy@gtemp\Fld@value
5988 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5989 \fi
5990 \fi
5991 \endgroup
5992 }

```

\HyField@@PDFChoices

```

5993 \def\HyField@@PDFChoices#1#2{%
5994 \ifx#2\relax
5995 \else
5996 \count@=0 %
5997 \def\HyTmp@optitem##1##2##3{%
5998 \def\HyTmp@key{##2}%
5999 \ifx\HyTmp@key\Hy@gtemp
6000 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
6001 \HyTmp@optlist
6002 \HyTmp@optitem{##1}{##2}1%
6003 }%
6004 \let\HyTmp@found=Y%
6005 \else
6006 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
6007 \HyTmp@optlist
6008 \HyTmp@optitem{##1}{##2}##3%
6009 }%
6010 \fi
6011 }%

```

```

6012 \expandafter\comma@parse\expandafter{#2}{%
6013 \pdfstringdef\Hy@gttemp\comma@entry
6014 \let\HyTmp@found=N %
6015 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
6016 \HyTmp@optlist
6017 \ifx\HyTmp@found Y%
6018 \advance\count@ by 1 %
6019 \else
6020 \@onelevel@sanitize\comma@entry
6021 \PackageWarning{hyperref}{%
6022 \string\ChoiceBox: Ignoring value '\comma@entry',%
6023 \MessageBreak
6024 it cannot be found in the choices%
6025 }%
6026 \fi
6027 \@gobble
6028 }%
6029 \def\HyTmp@optitem##1##2##3{%
6030 \ifnum##3=1 %
6031 (##2)%
6032 \fi
6033 }%
6034 \ifcase\count@
6035 \or
6036 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
6037 \else
6038 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
6039 \ifx#1V%
6040 \def\HyTmp@optitem##1##2##3{%
6041 \ifnum##3=1 %
6042 \@firstofone{ ##1}%
6043 \fi
6044 }%
6045 \edef\HyTmp@optlist{\HyTmp@optlist}%
6046 \xdef\Fld@choices{%
6047 \Fld@choices
6048 /I\expandafter\@firstofone\HyTmp@optlist}%
6049 }%
6050 \fi
6051 \fi
6052 \fi
6053 }

```

## 20.3 Forms

\HyField@SetKeys

```

6054 \def\HyField@SetKeys{%
6055 \kvsetkeys{Field}%
6056 }

```

```

6057 \newif\ifFld@checked
6058 \newif\ifFld@disabled
6059 \Fld@checkedfalse
6060 \Fld@disabledfalse
6061 \newcount\Fld@menulength
6062 \newdimen\Field@Width
6063 \newdimen\Fld@charsize
6064 \Fld@charsize=10\p@
6065 \def\Fld@maxlen{0}
6066 \def\Fld@align{0}
6067 \def\Fld@color{0 0 0 rg}
6068 \def\Fld@bcolor{1 1 1}
6069 \def\Fld@bordercolor{1 0 0}
6070 \def\Fld@bordersep{1\p@}
6071 \def\Fld@borderwidth{1}
6072 \def\Fld@borderstyle{S}
6073 \def\Fld@cbsymbol{4}
6074 \def\Fld@radiosymbol{H}
6075 \def\Fld@rotation{0}
6076 \def\Form{\@ifnextchar{\@Form}{\@Form[]}}
6077 \def\endForm{\@endForm}
6078 \newif\ifForm@html
6079 \Form@htmlfalse
6080 \def\Form@boolkey#1#2{%
6081   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
6082 }
6083 \define@key{Form}{action}{%
6084   \hyper@normalise\Hy@DefFormAction{#1}%
6085 }
6086 \def\Hy@DefFormAction{\def\Form@action}
6087 \def\enc@html{html}
6088 \define@key{Form}{encoding}{%
6089   \def\Hy@tempa{#1}%
6090   \ifx\Hy@tempa\enc@html
6091     \Form@htmltrue
6092     \def\Fld@export{html}%
6093   \else
6094     \Hy@Warning{%
6095       Form 'encoding' key with \MessageBreak
6096       unknown value '#1'%
6097     }%
6098     \Form@htmlfalse
6099   \fi
6100 }
6101 \define@key{Form}{method}{%
6102   \lowercase{\def\Hy@temp{#1}}%
6103   \@ifundefined{Form@method@\Hy@temp}{%
6104     \@onelevel@sanitize\Hy@temp
6105     \Hy@Error{%
6106       Unknown method '\Hy@temp'.\MessageBreak

```

```

6107     Known values are 'post' and 'get'%
6108   }\@ehc
6109 }\{%
6110   \let\Form@method\Hy@temp
6111   \ifcase\@nameuse{Form@method@\Hy@temp} %
6112     \Fld@getmethodfalse
6113   \else
6114     \Fld@getmethodtrue
6115   \fi
6116 }\%
6117 }
6118 \def\Form@method{}
6119 \@namedef{Form@method@post}{0}
6120 \@namedef{Form@method@get}{1}

6121 \newif\ifHyField@NeedAppearances
6122 \def\HyField@NeedAppearancesfalse{%
6123   \global\let\ifHyField@NeedAppearances\iffalse
6124 }
6125 \def\HyField@NeedAppearancetrue{%
6126   \global\let\ifHyField@NeedAppearances\iftrue
6127 }
6128 \HyField@NeedAppearancetrue
6129 \define@key{Form}{NeedAppearances}[true]{%
6130   \edef\Hy@tempa{#1}%
6131   \ifx\Hy@tempa\Hy@true
6132     \HyField@NeedAppearancetrue
6133   \else
6134     \ifx\Hy@tempa\Hy@false
6135       \HyField@NeedAppearancesfalse
6136     \else
6137       \Hy@Error{%
6138         Unexpected value '\Hy@tempa'\MessageBreak
6139         of option 'NeedAppearances' instead of\MessageBreak
6140         'true' or 'false'%
6141       }\@ehc
6142     \fi
6143   \fi
6144 }
6145 \def\Field@boolkey#1#2{%
6146   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
6147 }
6148 \ifHy@texht
6149   \newtoks\Field@toks
6150   \Field@toks={ }%
6151   \def\Field@addtoks#1#2{%
6152     \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
6153     \@processme
6154   }%
6155 \else

```

```

6156 \def\Hy@WarnHTMLFieldOption#1{%
6157   \Hy@Warning{%
6158     HTML field option '#1'\MessageBreak
6159     is ignored%
6160   }%
6161 }%
6162 \fi
6163 \def\Fld@checkequals#1=#2=#3\\{%
6164   \def\@currDisplay{#1}%
6165   \ifx\\#2\\%
6166     \def\@currValue{#1}%
6167   \else
6168     \def\@currValue{#2}%
6169   \fi
6170 }
6171 \define@key{Field}{loc}{%
6172   \def\Fld@loc{#1}%
6173 }
6174 \define@key{Field}{checked}[true]{%
6175   \lowercase{\Field@boolkey{#1}}{checked}%
6176 }
6177 \define@key{Field}{disabled}[true]{%
6178   \lowercase{\Field@boolkey{#1}}{disabled}%
6179 }
6180 \ifHy@texht
6181   \define@key{Field}{accesskey}{%
6182     \Field@addtoks{accesskey}{#1}%
6183   }%
6184   \define@key{Field}{tabkey}{%
6185     \Field@addtoks{tabkey}{#1}%
6186   }%
6187 \else
6188   \define@key{Field}{accesskey}{%
6189     \Hy@WarnHTMLFieldOption{accesskey}%
6190   }%
6191   \define@key{Field}{tabkey}{%
6192     \Hy@WarnHTMLFieldOption{tabkey}%
6193   }%
6194 \fi
6195 \define@key{Field}{name}{%
6196   \def\Fld@name{#1}%
6197 }
6198 \let\Fld@altname\relax
6199 \define@key{Field}{altname}{%
6200   \def\Fld@altname{#1}%
6201 }
6202 \let\Fld@mappingname\relax
6203 \define@key{Field}{mappingname}{%
6204   \def\Fld@mappingname{#1}%
6205 }

```

```

6206 \define@key{Field}{width}{%
6207   \def\Fld@width{#1}%
6208   \Field@Width#1\setbox0=\hbox{m}%
6209 }
6210 \define@key{Field}{maxlen}{%
6211   \def\Fld@maxlen{#1}%
6212 }
6213 \define@key{Field}{menulength}{%
6214   \Fld@menulength=#1\relax
6215 }
6216 \define@key{Field}{height}{%
6217   \def\Fld@height{#1}%
6218 }
6219 \define@key{Field}{charsize}{%
6220   \setlength{\Fld@charsize}{#1}%
6221 }
6222 \define@key{Field}{borderwidth}{%
6223   \Hy@defaultbp\Fld@borderwidth{#1}%
6224 }
6225 \def\Hy@defaultbp#1#2{%
6226   \begingroup
6227   \afterassignment\Hy@defaultbpAux
6228   \dimen@=#2bp\relax{#1}{#2}%
6229 }
6230 \begingroup\expandafter\expandafter\expandafter\endgroup
6231 \expandafter\ifx\csname dimexpr\endcsname\relax
6232   \def\Hy@defaultbpAux#1\relax#2#3{%
6233     \ifx!#1!%
6234       \endgroup
6235       \def#2{#3}%
6236     \else
6237       \dimen@=.99626\dimen@
6238       \edef\x{\endgroup
6239         \def\noexpand#2{%
6240           \strip@pt\dimen@
6241         }%
6242       }\x
6243     \fi
6244   }%
6245 \else
6246   \def\Hy@defaultbpAux#1\relax#2#3{%
6247     \ifx!#1!%
6248       \endgroup
6249       \def#2{#3}%
6250     \else
6251       \edef\x{\endgroup
6252         \def\noexpand#2{%
6253           \strip@pt\dimexpr\dimen@*800/803\relax
6254         }%
6255       }\x

```

```

6256 \fi
6257 }%
6258 \fi
6259 \define@key{Field}{borderstyle}{%
6260 \let\Hy@temp\Fld@borderstyle
6261 \def\Fld@borderstyle{#1}%
6262 \Hy@Match\Fld@borderstyle}{%
6263 ~[SDBIU]$%
6264 }{}{%
6265 \Hy@Warning{%
6266 Invalid value '@pdfborderstyle'\MessageBreak
6267 for option 'pdfborderstyle'. Valid values:\MessageBreak
6268 \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
6269 \space\space I (Inset), U (Underline)\MessageBreak
6270 Option setting is ignored%
6271 }%
6272 \let\Fld@borderstyle\Hy@temp
6273 }%
6274 }
6275 \define@key{Field}{bordersep}{%
6276 \def\Fld@bordersep{#1}%
6277 }
6278 \define@key{Field}{default}{%
6279 \def\Fld@default{#1}%
6280 }
6281 \define@key{Field}{align}{%
6282 \def\Fld@align{#1}%
6283 }
6284 \define@key{Field}{value}{%
6285 \def\Fld@value{#1}%
6286 }
6287 \define@key{Field}{checkboxsymbol}{%
6288 \Fld@DingDef\Fld@cbsymbol{#1}%
6289 }
6290 \define@key{Field}{radiosymbol}{%
6291 \Fld@DingDef\Fld@radiosymbol{#1}%
6292 }
6293 \def\Fld@DingDef#1#2{%
6294 \let\Fld@temp\ltx@empty
6295 \Fld@@@DingDef#2\ding{ }\@nil
6296 \let#1\Fld@temp
6297 }
6298 \def\Fld@@@DingDef#1\ding{#2#3}\@nil{%
6299 \expandafter\def\expandafter\Fld@temp\expandafter{%
6300 \Fld@temp
6301 #1%
6302 }%
6303 \ifx\\#3\\%
6304 \expandafter\@gobble
6305 \else

```



```

6306 \begingroup
6307 \lccode'0=#2\relax
6308 \lowercase{\endgroup
6309 \expandafter\def\expandafter\Fld@temp\expandafter{%
6310 \Fld@temp
6311 0%
6312 }%
6313 }%
6314 \expandafter\@firstofone
6315 \fi
6316 {%
6317 \Fld@@DingDef#3\@nil
6318 }%
6319 }

6320 \define@key{Field}{rotation}{%
6321 \def\Fld@rotation{#1}%
6322 }

6323 \define@key{Field}{backgroundcolor}{%
6324 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6325 }
6326 \define@key{Field}{bordercolor}{%
6327 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6328 }
6329 \define@key{Field}{color}{%
6330 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6331 }

6332 \let\Fld@onclick@code\ltx@empty
6333 \let\Fld@format@code\ltx@empty
6334 \let\Fld@validate@code\ltx@empty
6335 \let\Fld@calculate@code\ltx@empty
6336 \let\Fld@keystroke@code\ltx@empty
6337 \let\Fld@onfocus@code\ltx@empty
6338 \let\Fld@onblur@code\ltx@empty
6339 \let\Fld@onmousedown@code\ltx@empty
6340 \let\Fld@onmouseup@code\ltx@empty
6341 \let\Fld@onenter@code\ltx@empty
6342 \let\Fld@onexit@code\ltx@empty
6343 \def\Hy@temp#1{%
6344 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6345 }
6346 \def\Hy@@temp#1#2{%
6347 \ifHy@pdfa
6348 \define@key{Field}{#2}{%
6349 \Hy@Error{%
6350 PDF/A: Additional action '#2' is prohibited%
6351 }\@ehc
6352 }%
6353 \else
6354 \define@key{Field}{#2}{%

```

```

6355     \def#1{##1}%
6356   }%
6357   \fi
6358 }
6359 \Hy@temp{keystroke}
6360 \Hy@temp{format}
6361 \Hy@temp{validate}
6362 \Hy@temp{calculate}
6363 \Hy@temp{onfocus}
6364 \Hy@temp{onblur}
6365 \Hy@temp{onenter}
6366 \Hy@temp{onexit}

6367 \let\Fld@calculate@sortkey\ltx@empty
6368 \define@key{Field}{calculatesortkey}[1]{%
6369   \def\Fld@calculate@sortkey{#1}%
6370 }

6371 \ifHy@texht
6372   \def\Hy@temp#1{%
6373     \define@key{Field}{#1}{%
6374       \Field@addtoks{#1}{##1}%
6375     }%
6376   }%
6377   \else
6378     \def\Hy@temp#1{%
6379       \define@key{Field}{#1}{%
6380         \Hy@WarnHTMLFieldOption{#1}%
6381       }%
6382     }%
6383   \fi
6384   \Hy@temp{ondblclick}
6385   \Hy@temp{onmousedown}
6386   \Hy@temp{onmouseup}
6387   \Hy@temp{onmouseover}
6388   \Hy@temp{onmousemove}
6389   \Hy@temp{onmouseout}
6390   \Hy@temp{onkeydown}
6391   \Hy@temp{onkeyup}
6392   \Hy@temp{onselect}
6393   \Hy@temp{onchange}
6394   \Hy@temp{onkeypress}
6395   \ifHy@texht
6396     \define@key{Field}{onclick}{%
6397       \Field@addtoks{onclick}{#1}%
6398     }%
6399   \else
6400     \ifHy@pdfa
6401       \define@key{Field}{onclick}{%
6402         \Hy@Error{%
6403           PDF/A: Action 'onclick' is prohibited%

```

```

6404     }\@ehc
6405   }%
6406 \else
6407   \define@key{Field}{onclick}{%
6408     \def\Fld@onclick@code{#1}%
6409   }%
6410 \fi
6411 \fi

6412 \DeclareRobustCommand\TextField{%
6413   \@ifnextchar[{\@TextField}{\@TextField[]}%
6414 }
6415 \DeclareRobustCommand\ChoiceMenu{%
6416   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6417 }
6418 \DeclareRobustCommand\CheckBox{%
6419   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6420 }
6421 \DeclareRobustCommand\PushButton{%
6422   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6423 }
6424 \DeclareRobustCommand\Gauge{%
6425   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6426 }
6427 \DeclareRobustCommand\Submit{%
6428   \@ifnextchar[{\@Submit}{\@Submit[]}%
6429 }
6430 \DeclareRobustCommand\Reset{%
6431   \@ifnextchar[{\@Reset}{\@Reset[]}%
6432 }
6433 \def\LayoutTextField#1#2{% label, field
6434   #1 #2%
6435 }
6436 \def\LayoutChoiceField#1#2{% label, field
6437   #1 #2%
6438 }
6439 \def\LayoutCheckField#1#2{% label, field
6440   #1 #2%
6441 }
6442 \def\LayoutPushButtonField#1{% button
6443   #1%
6444 }
6445 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6446 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6447 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6448 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6449 \def\MakeButtonField#1{%
6450   \sbox0{%
6451     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6452   }%

```

```

6453 \@tempdima\ht0 %
6454 \advance\@tempdima by \Fld@borderwidth bp %
6455 \advance\@tempdima by \Fld@borderwidth bp %
6456 \ht0\@tempdima
6457 \@tempdima\dp0 %
6458 \advance\@tempdima by \Fld@borderwidth bp %
6459 \advance\@tempdima by \Fld@borderwidth bp %
6460 \dp0\@tempdima
6461 \box0\relax
6462 }
6463 \def\DefaultHeightofSubmit{14pt}
6464 \def\DefaultWidthofSubmit{2cm}
6465 \def\DefaultHeightofReset{14pt}
6466 \def\DefaultWidthofReset{2cm}
6467 \def\DefaultHeightofCheckBox{\baselineskip}
6468 \def\DefaultWidthofCheckBox{\baselineskip}
6469 \def\DefaultHeightofChoiceMenu{\baselineskip}
6470 \def\DefaultWidthofChoiceMenu{\baselineskip}
6471 \def\DefaultHeightofText{\baselineskip}
6472 \def\DefaultHeightofTextMultiline{4\baselineskip}
6473 \def\DefaultWidthofText{3cm}
6474 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6475 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6476 \def\DefaultOptionsofPushButton{print}
6477 \def\DefaultOptionsofCheckBox{print}
6478 \def\DefaultOptionsofText{print}

Default options for the types of \ChoiceMenu.
6479 \def\DefaultOptionsofListBox{print}
6480 \def\DefaultOptionsofComboBox{print,edit,sort}
6481 \def\DefaultOptionsofPopdownBox{print}
6482 \def\DefaultOptionsofRadio{print,notoggetooff}

```

## 21 Setup

```

6483 \ifHy@hyperfigures
6484 \Hy@Info{Hyper figures ON}%
6485 \else
6486 \Hy@Info{Hyper figures OFF}%
6487 \fi
6488 \ifHy@nesting
6489 \Hy@Info{Link nesting ON}%
6490 \else
6491 \Hy@Info{Link nesting OFF}%
6492 \fi
6493 \ifHy@hyperindex
6494 \Hy@Info{Hyper index ON}%
6495 \else
6496 \Hy@Info{Hyper index OFF}%

```

```

6497 \fi
6498 \ifHy@backref
6499   \Hy@Info{backreferencing ON}%
6500 \else
6501   \Hy@Info{backreferencing OFF}%
6502 \fi
6503 \ifHy@colorlinks
6504   \Hy@Info{Link coloring ON}%
6505 \else
6506   \Hy@Info{Link coloring OFF}%
6507 \fi
6508 \ifHy@ocgcolorlinks
6509   \Hy@Info{Link coloring with OCG ON}%
6510 \else
6511   \Hy@Info{Link coloring with OCG OFF}%
6512 \fi
6513 \ifHy@pdfa
6514   \Hy@Info{PDF/A mode ON}%
6515 \else
6516   \Hy@Info{PDF/A mode OFF}%
6517 \fi

```

## 22 Low-level utility macros

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

```

6518 \edef\hyper@hash{\string#}
6519 \edef\hyper@tilde{\string~}
6520 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

6521 \def\@currentHref{Doc-Start}
6522 \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.

```

6523 \Hy@AtBeginDocument{%
6524   \Hy@pdfstringtrue
6525   \PDF@SetupDoc
6526   \let\PDF@SetupDoc\@empty
6527   \Hy@DisableOption{pdfpagescrop}%
6528   \Hy@DisableOption{pdfpagemode}%
6529   \Hy@DisableOption{pdfnonfullscreenpagemode}%
6530   \Hy@DisableOption{pdfdirection}%
6531   \Hy@DisableOption{pdfviewarea}%
6532   \Hy@DisableOption{pdfviewclip}%
6533   \Hy@DisableOption{pdfprintarea}%
6534   \Hy@DisableOption{pdfprintclip}%
6535   \Hy@DisableOption{pdfprintscaling}%
6536   \Hy@DisableOption{pdfduplex}%

```

```

6537 \Hy@DisableOption{pdfpicktraybypdfsize}%
6538 \Hy@DisableOption{pdfprintpagerange}%
6539 \Hy@DisableOption{pdfnumcopies}%
6540 \Hy@DisableOption{pdfstartview}%
6541 \Hy@DisableOption{pdfstartpage}%
6542 \Hy@DisableOption{pdftoolbar}%
6543 \Hy@DisableOption{pdfmenubar}%
6544 \Hy@DisableOption{pdfwindowui}%
6545 \Hy@DisableOption{pdfwindow}%
6546 \Hy@DisableOption{pdfcenterwindow}%
6547 \Hy@DisableOption{pdfdisplaydoctitle}%
6548 \Hy@DisableOption{pdfpagelayout}%
6549 \Hy@DisableOption{pdflang}%
6550 \Hy@DisableOption{baseurl}%
6551 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6552 \Hy@pdfstringfalse
6553 }

Ignore star from referencing macros:
6554 \LetLtxMacro\NoHy@OrgRef\ref
6555 \DeclareRobustCommand*{\ref}{%
6556 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6557 }
6558 \LetLtxMacro\NoHy@OrgPageRef\pageref
6559 \DeclareRobustCommand*{\pageref}{%
6560 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6561 }

```

## 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.

```

6562 \def\NoHyper{%
6563 \def\hyper@link@{##1}##2##3##4{##4\Hy@xspace@end}%
6564 \def\hyper@anchor##1##2{##2\Hy@xspace@end}%
6565 \global\let\hyper@livelink\hyper@link
6566 \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6567 \let\hyper@anchor\ltx@gobble
6568 \let\hyper@anchorstart\ltx@gobble
6569 \def\hyper@anchorend{\Hy@xspace@end}%
6570 \let\hyper@linkstart\ltx@gobbletwo
6571 \def\hyper@linkend{\Hy@xspace@end}%
6572 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6573 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6574 \let\Hy@backout\@gobble
6575 }
6576 \def\stop@hyper{%

```

```

6577 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6578 \let\Hy@backout\@gobble
6579 \let\hyper@@anchor\ltx@gobble
6580 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6581 \let\hyper@anchor\ltx@gobble
6582 \let\hyper@anchorstart\ltx@gobble
6583 \def\hyper@anchorend{\Hy@xspace@end}%
6584 \let\hyper@linkstart\ltx@gobbletwo
6585 \def\hyper@linkend{\Hy@xspace@end}%
6586 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6587 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6588 }
6589 \def\endNoHyper{%
6590 \global\let\hyper@link\hyper@livelink
6591 }
6592 </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:

```

6593 <*nohyperref>
6594 \RequirePackage{letltxmacro}[2008/06/13]
6595 \let\hyper@@anchor\@gobble
6596 \def\hyper@link#1#2#3{#3}%
6597 \let\hyper@anchorstart\@gobble
6598 \let\hyper@anchorend\@empty
6599 \let\hyper@linkstart\@gobbletwo
6600 \let\hyper@linkend\@empty
6601 \def\hyper@linkurl#1#2{#1}%
6602 \def\hyper@linkfile#1#2#3{#1}%
6603 \def\hyper@link@[#1]#2#3{}%
6604 \let\PDF@SetupDoc\@empty
6605 \let\PDF@FinishDoc\@empty
6606 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6607 \def\Acrobatmenu#1#2{\leavevmode#2}
6608 \let\pdfstringdefDisableCommands\@gobbletwo
6609 \let\texorpdfstring\@firstoftwo
6610 \let\pdfbookmark\@undefined
6611 \newcommand\pdfbookmark[3][{}]{
6612 \let\phantomsection\@empty
6613 \let\hypersetup\@gobble

```

```

6614 \let\hyperbaseurl\@gobble
6615 \newcommand*{\href}[3][\#3]
6616 \let\hyperdef\@gobbletwo
6617 \let\hyperlink\@gobble
6618 \let\hypertarget\@gobble
6619 \def\hyperref{%
6620   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6621 }
6622 \long\def\@gobbleopt[#1]{%
6623 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

6624 \LetLtxMacro\NoHy@OrgRef\ref
6625 \DeclareRobustCommand*{\ref}{%
6626   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6627 }
6628 \LetLtxMacro\NoHy@OrgPageRef\pageref
6629 \DeclareRobustCommand*{\pageref}{%
6630   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6631 }
6632 \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}`

```

6633 \*package
6634 \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.

```

6635 \if@filesw
6636   \ifHy@typexml
6637     \immediate\closeout\@mainaux
6638     \immediate\openout\@mainaux\jobname.aux\relax
6639     \immediate\write\@auxout{<relaxxml>\relax}%
6640   \fi
6641   \immediate\write\@auxout{%
6642     \string\providecommand\string\HyperFirstAtBeginDocument{%
6643       \string\AtBeginDocument}^^J%
6644     \string\HyperFirstAtBeginDocument{%
6645       \string\ifx\string\hyper@anchor\string\@undefined^^J%
6646       \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6647       \string\gdef\string\contentsline%
6648         \string#1\string#2\string#3\string#4{%
6649         \string\oldcontentsline%
6650         {\string#1}{\string#2}{\string#3}}^^J%

```





## 26 Title strings

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

```

6690 \ifHy@pdfusetitle
6691   \let\HyOrg@title\title
6692   \let\HyOrg@author\author
6693   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
6694   \def\Hy@scanopttitle[#1]{%
6695     \gdef\Hy@title{#1}%
6696     \HyOrg@title{#1}%
6697   }%
6698   \def\Hy@scantitle#1{%
6699     \gdef\Hy@title{#1}%
6700     \HyOrg@title{#1}%
6701   }%
6702   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6703   \def\Hy@scanoptauthor[#1]{%
6704     \gdef\Hy@author{#1}%
6705     \HyOrg@author{#1}%
6706   }%
6707   \def\Hy@scanauthor#1{%
6708     \gdef\Hy@author{#1}%
6709     \HyOrg@author{#1}%
6710   }%

```

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.

```

6711 \begingroup
6712   \def\process@me#1\@nil#2{%
6713     \expandafter\let\expandafter\x\csname @#2\endcsname
6714     \edef\y{\expandafter\strip@prefix\meaning\x}%
6715     \def\c##1##2\@nil{%
6716       \ifx\\##1\\%
6717         \else
6718           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6719             \expandafter{\x}%
6720         \fi
6721       }%
6722     \expandafter\c\y\relax#1\@nil
6723   }%
6724   \expandafter\process@me\string\@latex@\@nil{title}%
6725   \expandafter\process@me\string\@latex@\@nil{author}%
6726 \endgroup
6727 \fi
6728 \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.

```

6729 \def\Hy@UseMaketitleString#1{%
6730   \ltx@ifundefined{Hy@#1}{-}{%
6731     \begingroup
6732     \let\Hy@saved@hook\pdfstringdefPreHook
6733     \pdfstringdefDisableCommands{%
6734       \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6735       \let\newline\\%
6736     }%
6737     \expandafter\ifx\csname @pdf#1\endcsname\@empty
6738       \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6739         \csname Hy@#1\endcsname\@empty
6740       }%
6741     \fi
6742     \global\let\pdfstringdefPreHook\Hy@saved@hook
6743   \endgroup
6744 }%
6745 }
6746 \def\Hy@newline@title#1{ #1}
6747 \def\Hy@newline@author#1{, #1}
6748 \def\Hy@UseMaketitleInfos{%
6749   \Hy@UseMaketitleString{title}%
6750   \Hy@UseMaketitleString{author}%
6751 }

```

## 27 Page numbers

This stuff is done by Heiko Oberdiek.

## 28 Every page

```

6752 \RequirePackage{atbegshi}[2007/09/09]
6753 \let\Hy@EveryPageHook\ltx@empty
6754 \let\Hy@EveryPageBoxHook\ltx@empty
6755 \let\Hy@FirstPageHook\ltx@empty
6756 \AtBeginShipout{%
6757   \Hy@EveryPageHook
6758   \ifx\Hy@EveryPageBoxHook\ltx@empty
6759     \else
6760     \setbox\AtBeginShipoutBox=\vbox{%
6761       \offinterlineskip

```

```

6762 \Hy@EveryPageBoxHook
6763 \box\AtBeginShipoutBox
6764 }%
6765 \fi
6766 }
6767 \ltx@iffileloaded{hpdftex.def}{%
6768 \AtBeginShipout{%
6769 \Hy@FirstPageHook
6770 \global\let\Hy@FirstPageHook\ltx@empty
6771 }%
6772 }{%
6773 \AtBeginShipoutFirst{%
6774 \Hy@FirstPageHook
6775 }%
6776 }
6777 \g@addto@macro\Hy@FirstPageHook{%
6778 \PDF@FinishDoc
6779 \global\let\PDF@FinishDoc\ltx@empty
6780 }

```

## 28.1 PDF /PageLabels

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

```

6781 \ifHy@pdfpagelabels
6782 \begingroup\expandafter\expandafter\expandafter\endgroup
6783 \expandafter\ifx\csname thepage\endcsname\relax
6784 \Hy@pdfpagelabelsfalse
6785 \Hy@WarningNoLine{%
6786 Option 'pdfpagelabels' is turned off\MessageBreak
6787 because \string\thepage\space is undefined%
6788 }%
6789 \csname fi\endcsname
6790 \csname iffalse\expandafter\endcsname
6791 \fi

```

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

```

6792 \def\thispdfpagelabel#1{%
6793 \gdef\HyPL@thisLabel{#1}%
6794 }%
6795 \global\let\HyPL@thisLabel\relax

```

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

```

6796 \let\HyPL@Labels\ltx@empty

```

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

```

6797 \newcount\Hy@abspage
6798 \Hy@abspage=0 %

```

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

```
6799 \def\HyPL@LastType{init}%
6800 \def\HyPL@LastNumber{0}%
6801 \let\HyPL@LastPrefix\ltx@empty
```

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

```
6802 \def\HyPL@arabic{D}%
6803 \def\HyPL@Roman{R}%
6804 \def\HyPL@roman{r}%
6805 \def\HyPL@Alph{A}%
6806 \def\HyPL@alph{a}%

6807 \let\HyPL@SlidesSetPage\ltx@empty
6808 \ltx@ifclassloaded{slides}{%
6809   \def\HyPL@SlidesSetPage{%
6810     \advance\c@page\ltx@one
6811     \ifnum\value{page}>\ltx@one
6812       \protected@edef\HyPL@SlidesOptionalPage{%
6813         \Hy@SlidesFormatOptionalPage{\thepage}%
6814       }%
6815     \else
6816       \let\HyPL@SlidesOptionalPage\ltx@empty
6817     \fi
6818     \advance\c@page-\ltx@one
6819     \def\HyPL@page{%
6820       \csname the\Hy@SlidesPage\endcsname
6821       \HyPL@SlidesOptionalPage
6822     }%
6823   }%
6824 }{}%
```

`\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.

```
6825 \def\HyPL@EveryPage{%
6826   \begingroup
6827   \ifx\HyPL@thisLabel\relax
6828     \let\HyPL@page\thepage
6829     \HyPL@SlidesSetPage
6830   \else
6831     \let\HyPL@page\HyPL@thisLabel
6832     \global\let\HyPL@thisLabel\relax
6833   \fi
6834   \let\HyPL@Type\relax
6835   \ifnum\c@page>0 %
6836     \ifx\HyPL@SlidesSetPage\ltx@empty
6837       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6838     \fi
6839   \fi
6840   \let\Hy@temp Y%
6841   \ifx\HyPL@Type\HyPL@LastType
```

```

6842 \else
6843 \let\Hy@temp N%
6844 \fi
6845 \ifx\HyPL@Type\relax
6846 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6847 \else
6848 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6849 \fi
6850 \ifx\HyPL@Prefix\HyPL@LastPrefix
6851 \else
6852 \let\Hy@temp N%
6853 \fi
6854 \if Y\Hy@temp
6855 \advance\c@page by -1 %
6856 \ifnum\HyPL@LastNumber=\the\c@page\relax
6857 \else
6858 \let\Hy@temp N%
6859 \fi
6860 \Hy@StepCount\c@page
6861 \fi
6862 \if N\Hy@temp
6863 \ifx\HyPL@Type\relax
6864 \HyPL@storePageLabel{/P(\HyPL@Prefix)}%
6865 \else
6866 \HyPL@storePageLabel{%
6867 \ifx\HyPL@Prefix\@empty
6868 \else
6869 /P(\HyPL@Prefix)%
6870 \fi
6871 /S/\csname HyPL\HyPL@Type\endcsname
6872 \ifnum\the\c@page=1 %
6873 \else
6874 \space/St \the\c@page
6875 \fi
6876 }%
6877 \fi
6878 \fi
6879 \xdef\HyPL@LastNumber{\the\c@page}%
6880 \global\let\HyPL@LastType\HyPL@Type
6881 \global\let\HyPL@LastPrefix\HyPL@Prefix
6882 \endgroup
6883 \Hy@GlobalStepCount\Hy@abspage
6884 }%

```

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

```

6885 \def\HyPL@CheckThePage#1\@nil{%
6886 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6887 }%

```

`\HyPL@@CheckThePage` The first check is, is `\thepage` is defined such as in  $\text{\LaTeX}$ , e. g.: `\csname @ara-`

bic\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.

```

6888 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6889 \def\Hy@tempa{#4}%
6890 \def\Hy@tempb{\csname\endcsname\c@page}%
6891 \ifx\Hy@tempa\Hy@tempb
6892 \expandafter\ifx\csname HyPL#3\endcsname\relax
6893 \else
6894 \def\HyPL@Type{#3}%
6895 \def\HyPL@Prefix{#2}%
6896 \fi
6897 \else
6898 \begingroup
6899 \let\Hy@next\endgroup
6900 \let\HyPL@found\@undefined
6901 \def\arabic{\HyPL@Format{arabic}}%
6902 \def\Roman{\HyPL@Format{Roman}}%
6903 \def\roman{\HyPL@Format{roman}}%
6904 \def\Alph{\HyPL@Format{Alph}}%
6905 \def\alph{\HyPL@Format{alph}}%
6906 \protected@edef\Hy@temp{#1}%
6907 \ifx\HyPL@found\relax
6908 \toks@{\expandafter{\Hy@temp}}%
6909 \edef\Hy@next{\endgroup
6910 \noexpand\HyPL@@@CheckThePage\the\toks@
6911 \noexpand\HyPL@found\relax\noexpand\@nil
6912 }%
6913 \fi
6914 \Hy@next
6915 \fi
6916 }%
```

\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.

```

6917 \def\HyPL@Format#1#2{%
6918 \ifx\HyPL@found\@undefined
6919 \expandafter\ifx\csname c@#2\endcsname\c@page
6920 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6921 \else
6922 \expandafter\noexpand\csname#1\endcsname{#2}%
6923 \fi
6924 \else
6925 \expandafter\noexpand\csname#1\endcsname{#2}%
6926 \fi
6927 }%
```

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

```
6928 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6929   \def\Hy@tempa{#3}%
6930   \def\Hy@tempb{\HyPL@found\relax}%
6931   \ifx\Hy@tempa\Hy@tempb
6932     \def\HyPL@Type{#2}%
6933     \def\HyPL@Prefix{#1}%
6934   \fi
6935 }%
```

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

```
6936 \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`.

```
6937 \def\HyPL@Useless{0<</S/D>>}%
6938 \@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.

```
6939 \def\HyPL@SetPageLabels{%
6940   \@onelevel@sanitize\HyPL@Labels
6941   \ifx\HyPL@Labels\@empty
6942   \else
6943     \ifx\HyPL@Labels\HyPL@Useless
6944     \else
6945       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6946     \fi
6947   \fi
6948 }%
```

```
6949 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6950 \fi
```

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

```
6951 \Hy@DisableOption{pdfpagelabels}
6952 </package>
```

### 28.1.1 pdfTeX and VTeX

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

`\Hy@PutCatalog`

```
6953 <*pdfTeX>
6954 \pdf@ifdraftmode{%
```



```

6955 \let\Hy@PutCatalog\ltx@gobble
6956 }{%
6957 \let\Hy@PutCatalog\pdfcatalog
6958 }
6959 </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.

```

6960 <*vTeX>
6961 \providecommand*{\XR@ext}{pdf}
6962 \edef\Hy@VTeXversion{%
6963   \ifx\VTeXversion\@undefined
6964     \z@
6965   \else
6966     \ifx\VTeXversion\relax
6967       \z@
6968     \else
6969       \VTeXversion
6970     \fi
6971   \fi
6972 }
6973 \begingroup
6974   \ifnum\Hy@VTeXversion<660 %
6975     \gdef\Hy@PutCatalog#1{%
6976       \Hy@WarningNoLine{%
6977         VTeX 6.59g or above required for pdfpagelabels%
6978       }%
6979     }%
6980   \else
6981     \gdef\Hy@PutCatalog#1{%
6982       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6983     }%
6984     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6985       \ifx\#2\%
6986         \else
6987           \immediate\special{!pdfpagelabels #2}%
6988         \fi
6989       }%
6990     \fi
6991 \endgroup
6992 </vTeX>

6993 <*pdfTeX | vTeX>

```

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

```

6994 \ifHy@pdfpagelabels
6995   \def\HyPL@StorePageLabel#1{%

```

```

6996 \toks@\expandafter{\HyPL@Labels}%
6997 \xdef\HyPL@Labels{%
6998   \the\toks@
6999   \the\Hy@abspage<<#1>>%
7000 }%
7001 }%

```

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.

```

7002 \RequirePackage{atveryend}[2009/12/07]%
7003 \AtVeryEndDocument{%
7004   \HyPL@SetPageLabels
7005 }%

7006 \fi
7007 </pdfTeX | vtex>

```

### 28.1.2 xetex

```

7008 <*xetex>
7009 \HyPsd@LoadUnicode
7010 \Hy@unicodetrue
7011 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
7012 \else
7013   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
7014 \fi
7015 \HyPsd@LoadStringEncoding
7016 \define@key{Hyp}{unicode}[true]{%
7017   \Hy@boolkey{unicode}{#1}%
7018   \ifHy@unicode
7019   \else
7020     \Hy@Warning{%
7021       XeTeX driver only supports ‘unicode=true’. Ignoring\MessageBreak
7022       option setting ‘unicode=false’%
7023     }%
7024     \Hy@unicodetrue
7025   \fi
7026 }
7027 \define@key{Hyp}{pdfencoding}{%
7028   \edef\HyPsd@temp{#1}%
7029   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
7030     \let\HyPsd@pdfencoding\HyPsd@temp
7031   \else
7032     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
7033       \let\HyPsd@pdfencoding\HyPsd@temp
7034     \else
7035       \Hy@Warning{%
7036         XeTeX driver only supports\MessageBreak
7037         ‘pdfencoding=unicode|auto’. Ignoring option\MessageBreak

```

```

7038     setting 'pdfencoding=\HyPsd@temp'%
7039   }%
7040   \fi
7041 \fi
7042 }
7043 \let\HyXeTeX@CheckUnicode\relax
7044 \</xetex>

```

### 28.1.3 pdfmarkbase, dvipdfm, xetex

```

7045 \<*pdfmarkbase>
7046 \begingroup
7047   \@ifundefined{headerps@out}{-}{%
7048     \toks@\expandafter{\Hy@FirstPageHook}%
7049     \xdef\Hy@FirstPageHook{%
7050       \noexpand\headerps@out{%
7051         systemdict /pdfmark known%
7052         {%
7053           userdict /?pdfmark systemdict /exec get put%
7054         }{%
7055           userdict /?pdfmark systemdict /pop get put %
7056           userdict /pdfmark systemdict /cleartomark get put%
7057         }%
7058         ifelse%
7059       }%
7060     \the\toks@
7061   }%
7062 }%
7063 \endgroup
7064 \</pdfmarkbase>

```

\Hy@PutCatalog

```

7065 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview <<#1>>}}
7066 \<*pdfmarkbase>
7067 \def\Hy@PutCatalog#1{%
7068   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>}}%
7069 }
7070 \</pdfmarkbase>

7071 \<*pdfmarkbase | dvipdfm | xetex>
7072 \ifHy@pdfpagelabels

```

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

```

7073 \def\HyPL@StorePageLabel#1{%
7074   \if@filesw
7075     \begingroup
7076       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
7077       \immediate\write\@mainaux{%
7078         \string\HyPL@Entry{\Hy@tempa}%
7079       }%
7080     \endgroup

```

```

7081 \fi
7082 }%

```

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.

```

7083 \Hy@AtBeginDocument{%
7084   \if@files
7085     \immediate\write\@mainaux{%
7086       \string\providecommand\string*\string\HyPL@Entry[1]{}%
7087     }%
7088   \fi
7089   \ifx\HyPL@Labels\@empty
7090     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
7091   \else
7092     \HyPL@SetPageLabels
7093   \fi
7094   \let\HyPL@Entry\@gobble
7095 }%

```

`\HyPL@Entry`

```

7096 \def\HyPL@Entry#1{%
7097   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
7098     \HyPL@Labels
7099     #1%
7100   }%
7101 }%

7102 \fi
7103 </pdfmarkbase | dvipdfm | xetex>
7104 <*package>

7105 \ifx\MaybeStopEarly\relax
7106 \else
7107   \Hy@stoppedearlytrue
7108   \expandafter\MaybeStopEarly
7109 \fi
7110 \Hy@stoppedearlyfalse

```

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

Anything which can be referenced advances some counter; we overload this to put in a hypertext starting point (with no visible anchor), and make a note of that for later use in `\label`. This will fail badly if `\theH<name>` does not expand to a sensible reference. This means that classes or package which introduce new elements need to define an equivalent `\theH<name>` for every `\the<name>`. We do make a trap to make `\theH<name>` be the same as `\arabic{<name>}`, if `\theH<name>` is not defined, but this is not necessarily a good idea. Alternatively,

the ‘naturalnames’ option uses whatever L<sup>A</sup>T<sub>E</sub>X provides, which may be useable. But then its up to you to make sure these are legal PDF and HTML names. The ‘hypertextnames=false’ option just makes up arbitrary names.

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

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

Start with a fallback for equations

```

7111 \def\Hy@CounterExists#1{%
7112   \begingroup\expandafter\expandafter\expandafter\endgroup
7113   \expandafter\ifx\csname c@#1\endcsname\relax
7114     \expandafter\@gobble
7115   \else
7116     \begingroup\expandafter\expandafter\expandafter\endgroup
7117     \expandafter\ifx\csname the#1\endcsname\relax
7118       \expandafter\expandafter\expandafter\@gobble
7119     \else
7120       \expandafter\expandafter\expandafter\@firstofone
7121     \fi
7122   \fi
7123 }
7124 \Hy@CounterExists{section}{%
7125   \providecommand\theHequation{\theHsection.\arabic{equation}}}%
7126 }
7127 \Hy@CounterExists{part}{%
7128   \providecommand\theHpart{\arabic{part}}}%
7129 }
7130 \ltx@ifundefined{thechapter}{%
7131   \providecommand\theHsection   {\arabic{section}}}%
7132   \providecommand\theHfigure    {\arabic{figure}}}%
7133   \providecommand\theHtable     {\arabic{table}}}%
7134 }{%
7135   \providecommand\theHchapter   {\arabic{chapter}}}%
7136   \providecommand\theHfigure    {\theHchapter.\arabic{figure}}}%
7137   \providecommand\theHtable     {\theHchapter.\arabic{table}}}%
7138   \providecommand\theHsection   {\theHchapter.\arabic{section}}}%
7139 }
7140 \providecommand\theHsubsection  {\theHsection.\arabic{subsection}}
7141 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
7142 \providecommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
7143 \providecommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}
7144 \providecommand\theHtheorem     {\theHsection.\arabic{theorem}}
7145 \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.

```

7146 \let\H@item\item
7147 \newcounter{Item}
7148 \def\theHItem{\arabic{Item}}
7149 \def\item{%
7150   \@hyper@itemfalse
7151   \if@nmbrlist\@hyper@itemtrue\fi
7152   \H@item
7153 }

7154 \providecommand\theHenumi   {\theHItem}
7155 \providecommand\theHenumii  {\theHItem}
7156 \providecommand\theHenumiii {\theHItem}
7157 \providecommand\theHenumiv  {\theHItem}
7158 \providecommand\theHHfootnote {\arabic{Hfootnote}}
7159 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
7160 \@ifundefined{theHHmpfootnote}{%
7161   \let\theHHmpfootnote\theHHfootnote
7162 }{}

```

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.

```

7163 \let\H@refstepcounter\refstepcounter
7164 \edef\name@of@eq{equation}%
7165 \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.

```

7166 \newif\if@hyper@item
7167 \newif\if@skiphyperref
7168 \@hyper@itemfalse
7169 \@skiphyperreffalse
7170 \def\refstepcounter#1{%
7171   \ifHy@pdfstring
7172   \else
7173     \H@refstepcounter{#1}%
7174     \edef\This@name{#1}%
7175     \ifx\This@name\name@of@slide
7176     \else
7177       \if@skiphyperref
7178       \else
7179         \if@hyper@item
7180           \stepcounter{Item}%
7181           \hyper@refstepcounter{Item}%
7182           \@hyper@itemfalse
7183         \else
7184           \hyper@refstepcounter{#1}%
7185         \fi

```

```

7186 \fi
7187 \fi
7188 \fi
7189 }
7190 \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.

```

7191 \ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

7192 \def\hyper@refstepcounter#1{%
7193 \edef\This@name{#1}%
7194 \ifx\This@name\name@of@eq
7195 \ifundefined{theHequation}{%
7196 \make@stripped@name{\theequation}%
7197 \let\theHequation\newname
7198 }{}%
7199 \fi
7200 \HyCnt@ProvideTheHCounter{#1}%
7201 \hyper@makecurrent{#1}%
7202 \ifmeasuring@
7203 \else
7204 \Hy@raisedlink{%
7205 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7206 }%
7207 \fi
7208 }

```

`\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.

```

7209 \def\HyCnt@ProvideTheHCounter#1{%
7210 \ifundefined{theH#1}{%
7211 \expandafter\def\csname theH#1\endcsname{}%
7212 \def\Hy@temp{\@elt{#1}}%
7213 \ltx@onelevel@sanitize\Hy@temp
7214 \let\HyOrg@elt\@elt
7215 \edef\@elt{%
7216 \noexpand\HyCnt@LookForParentCounter
7217 \expandafter\noexpand\csname theH#1\endcsname
7218 }%
7219 \cl@ckpt
7220 \let\@elt\HyOrg@elt

```

```

7221 \expandafter
7222 \ltx@LocalAppendToMacro\csname theH#1\expandafter\endcsname
7223 \expandafter{%
7224   \expandafter\@arabic\csname c@#1\endcsname
7225 }%
7226 }{}%
7227 }

```

\Hy@LookForParentCounter

```

7228 \def\HyCnt@LookForParentCounter#1#2{%
7229   \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
7230   \ltx@ifundefined{cl@#2}{%
7231   }{%
7232     \ltx@onelevel@sanitize\Hy@temp@A
7233     \edef\Hy@temp@A{%
7234       \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
7235     }\Hy@temp@A
7236     \ifin@
7237       \ltx@ifundefined{theH#2}{%
7238         \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7239         \expandafter{%
7240           \expandafter\@arabic\csname c@#2\endcsname.%
7241         }%
7242       }{%
7243         \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7244         \expandafter{%
7245           \csname theH#2\endcsname.%
7246         }%
7247       }%
7248     \fi
7249   }%
7250 }

```

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.

```

7251 \begingroup\expandafter\expandafter\expandafter\endgroup
7252 \expandafter\ifx\csname chapter\endcsname\relax
7253   \def\Hy@chapterstring{section}%
7254 \else
7255   \def\Hy@chapterstring{chapter}%
7256 \fi
7257 \def\Hy@appendixstring{appendix}
7258 \def\Hy@chapapp{\Hy@chapterstring}
7259 \ltx@ifundefined{appendix}{%
7260 }{%

```



```

7261 \let\HyOrg@appendix\appendix
7262 \def\Hy@AlphNoErr#1{%
7263   \ifnum\value{#1}>26 %
7264     Alph\number\value{#1}%
7265   \else
7266     \ifnum\value{#1}<1 %
7267       Alph\number\value{#1}%
7268     \else
7269       \Alph{#1}%
7270     \fi
7271   \fi
7272 }%
7273 \def\appendix{%
7274   \ltx@ifundefined{chapter}{%
7275     \gdef\theHsection{\Hy@AlphNoErr{section}}%
7276   }{%
7277     \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
7278   }%
7279   \xdef\Hy@chapapp{\Hy@appendixstring}%
7280   \HyOrg@appendix
7281 }%
7282 }

```

\Hy@Test@alph

```

7283 \def\Hy@Test@alph#1{%
7284   \ifcase#1\or
7285     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
7286     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
7287     u\or v\or w\or x\or y\or z%
7288   \else
7289     \@ctrerr
7290   \fi
7291 }

```

\Hy@Test@Alph

```

7292 \def\Hy@Test@Alph#1{%
7293   \ifcase#1\or
7294     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
7295     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
7296     U\or V\or W\or X\or Y\or Z%
7297   \else
7298     \@ctrerr
7299   \fi
7300 }

```

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

```

7301 \def\hyper@makecurrent#1{%
7302   \begingroup

```

```

7303 \Hy@safe@activetrue
7304 \edef\Hy@param{#1}%
7305 \ifx\Hy@param\Hy@chapterstring
7306 \let\Hy@param\Hy@chapapp
7307 \fi
7308 \ifHy@hypertextnames
7309 \let\@number\@firstofone
7310 \def\@fnsymbol##1{\fnsymbol\number##1}%
7311 \def\@arabic##1{\number##1}%
7312 \ifx\@alph\Hy@Test@alph
7313 \else
7314 \def\@alph{alph\number}%
7315 \fi
7316 \ifx\@Alph\Hy@Test@Alph
7317 \else
7318 \def\@Alph{Alph\number}%
7319 \fi
7320 \ifHy@naturalnames
7321 \let\textlatin\@firstofone
7322 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7323 \else
7324 \xdef\HyperGlobalCurrentHref{%
7325 \csname
7326 the%
7327 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7328 #1%
7329 \endcsname
7330 }%
7331 \fi
7332 \xdef\HyperGlobalCurrentHref{%
7333 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7334 }%
7335 \else
7336 \Hy@GlobalStepCount\Hy@linkcounter
7337 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7338 \fi
7339 \endgroup
7340 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7341 \ifHy@localanchorname
7342 \let\@currentHref\HyperLocalCurrentHref
7343 \else
7344 \global\let\@currentHref\HyperGlobalCurrentHref
7345 \fi
7346 }

```

\Hy@MakeCurrentHref

```

7347 \def\Hy@MakeCurrentHref#1{%
7348 \edef\HyperLocalCurrentHref{#1}%
7349 \@onelevel@sanitize\HyperLocalCurrentHref
7350 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref

```

```

7351 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7352 \ifHy@localanchorname
7353   \let\@currentHref\HyperLocalCurrentHref
7354 \else
7355   \global\let\@currentHref\HyperGlobalCurrentHref
7356 \fi
7357 }

```

`\Hy@MakeCurrentHrefAuto`

```

7358 \def\Hy@MakeCurrentHrefAuto#1{%
7359   \Hy@GlobalStepCount\Hy@linkcounter
7360   \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7361 }

```

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

```

7362 \def\@currentHlabel{\@currentHref}

7363 \@ifpackageloaded{fancyvrb}{%
7364   \@ifpackagelater{fancyvrb}{1998/05/20}{%
7365     \def\FV@StepLineNo{%
7366       \FV@SetLineNo
7367       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
7368       \FV@StepLineNo
7369     }%
7370   }%
7371 }{}

```

## 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`

```

7372 \Hy@AtBeginDocument{%
7373   \@ifclassloaded{revtex4}{%
7374     \@namedef{ver@lastpage.sty}{1994/06/25}%
7375   }{}%
7376   \@ifpackageloaded{lastpage}{%
7377     \ifHy@pageanchor
7378     \else
7379       \Hy@WarningNoLine{%
7380         The \string\pageref{LastPage} link doesn't work\MessageBreak
7381         with disabled option 'pageanchor'%

```

```

7382     }%
7383 \fi
7384 \def\lastpage@putlabel{%
7385   \addtocounter{page}{-1}%
7386   \if@filesw
7387     \begingroup
7388     \let\@number\@firstofone
7389     \ifHy@pageanchor
7390       \ifHy@hypertextnames
7391         \ifHy@plainpages
7392           \def\Hy@temp{\arabic{page}}%
7393         \else
7394           \Hy@unicodefalse
7395           \pdfstringdef\Hy@temp{\thepage}%
7396         \fi
7397       \else
7398         \def\Hy@temp{\the\Hy@pagecounter}%
7399       \fi
7400     \fi
7401     \immediate\write\@auxout{%
7402       \string\newlabel
7403       {LastPage}{\the\thepage}{\thepage}%
7404       \ifHy@pageanchor page.\Hy@temp\fi}{}}%
7405   }%
7406 \endgroup
7407 \fi
7408 \addtocounter{page}{1}%
7409 }%
7410 \@ifclassloaded{revtex4}{%
7411   \begingroup
7412   \toks@\expandafter{\lastpage@putlabel}%
7413   \edef\x{\endgroup
7414     \def\noexpand\lastpage@putlabel{%
7415       \noexpand\stepcounter{page}%
7416       \the\toks@
7417       \noexpand\addtocounter{page}\noexpand\m@ne
7418     }%
7419   }%
7420   \x
7421   }{}%
7422 }{}%
7423 }
7424 \</package>
7425 \< *check>
7426 \checkpackage{lastpage}[1994/06/25]
7427 \checkcommand\def\lastpage@putlabel{%
7428   \addtocounter{page}{-1}%
7429   \immediate\write\@auxout{%
7430     \string\newlabel{LastPage}{\the\thepage}{\thepage}%
7431   }%

```

```

7432 \addtocounter{page}{1}%
7433 }
7434 </check>
7435 <*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.

```

7436 \def\hypergetref#1{\getrefbykeydefault{#1}{-}{??}}
7437 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

## 32 Package titlesec and titletoc support

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

Package titlesec support:

```

7438 \@ifpackageloaded{titlesec}{%
7439 \def\ttl@Hy@steplink#1{%
7440 \Hy@MakeCurrentHrefAuto{#1*}%
7441 \edef\ttl@Hy@saveanchor{%
7442 \noexpand\Hy@raisedlink{%
7443 \noexpand\hyper@anchorstart{\@currentHref}%
7444 \noexpand\hyper@anchorend
7445 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7446 \noexpand\ttl@Hy@PatchSaveWrite
7447 }%
7448 }%
7449 }%
7450 \def\ttl@Hy@PatchSaveWrite{%
7451 \begingroup
7452 \toks@{\expandafter{\ttl@savewrite}%
7453 \edef\x{\endgroup
7454 \def\noexpand\ttl@savewrite{%
7455 \let\noexpand\@currentHref
7456 \noexpand\ttl@Hy@SavedCurrentHref
7457 \the\toks@
7458 }%
7459 }%
7460 \x
7461 }%
7462 \def\ttl@Hy@refstepcounter#1{%
7463 \let\ttl@b\Hy@raisedlink
7464 \def\Hy@raisedlink##1{%
7465 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7466 }%
7467 \refstepcounter{#1}%

```

```

7468 \let\Hy@raisedlink\ttl@b
7469 }%
7470 {}

```

Package titletoc support:

```

7471 \@ifpackageloaded{titletoc}{%
7472 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
7473 }{}

```

### 33 Package varioref support

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

```

7474 \def\Hy@varioref@undefined{{??}{??}{-}{-}}
7475 \@ifpackageloaded{varioref}{%
7476 \def\vref@pagenum#1#2{%
7477 \ifundefined{r@#2}{%
7478 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7479 }{}%
7480 \edef#1{\getpagerefnumber{#2}}%
7481 }%
7482 }{}

```

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

```

7483 \def\Hy@varioref@refstepcounter#1{%
7484 \stepcounter{#1}%
7485 \protected@edef\@currentlabel{%
7486 \csname p@#1\expandafter\endcsname\csname the#1\endcsname
7487 }%
7488 }
7489 \AtBeginDocument{%
7490 \ifx\refstepcounter\Hy@varioref@refstepcounter
7491 \let\H@refstepcounter\refstepcounter
7492 \let\refstepcounter\Hy@saved@refstepcounter
7493 \fi
7494 }

```

### 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

```

7495 \@ifpackageloaded{longtable}{%
7496 \begingroup

```

```

7497 \def\y{\LT@array}%
7498 \@ifundefined{scr@LT@array}{%
7499   \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
7500 }{\def\y{\scr@LT@array}}%
7501 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7502   \expandafter\endgroup
7503   \expandafter\def\y[##1]##2{%
7504     \H@refstepcounter{#1}%
7505     \hyper@makecurrent{table}%
7506     \let\Hy@LT@currentHref\@currentHref
7507     #2\@sharp###4%
7508   }%
7509 }%
7510 \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil
Patch of \LT@start: add anchor before first line after \vskip\LTpre
7511 \begingroup
7512 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7513   \endgroup
7514   \def\LT@start{%
7515     #1%
7516     \ifvoid\LT@foot#2\fi
7517     \let\@currentHref\Hy@LT@currentHref
7518     \Hy@raisedlink{%
7519       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7520     }%
7521     #3%
7522   }%
7523 }%
7524 \expandafter\x\LT@start\@nil
7525 }{}

```

## 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.

```

7526 \let\new@refstepcounter\refstepcounter
7527 \let\H@equation\equation
7528 \let\H@endequation\endequation
7529 \@ifpackageloaded{amsmath}{%
7530   \long\def\Hy@temp{%
7531     \incr@eqnum
7532     \mathdisplay@push
7533     \st@rredfalse \global\@eqnswtrue
7534     \mathdisplay{equation}%

```

```

7535 }%
7536 \ifx\Hy@temp\equation
7537 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7538 \csname iftrue\endcsname
7539 \else
7540 \long\def\equation{%
7541 \mathdisplay@push
7542 \st@rredfalse \global\@eqnswtrue
7543 \mathdisplay{equation}%
7544 \incr@eqnum
7545 }%
7546 \fi
7547 \fi
7548 }{%
7549 \def\equation{%
7550 \let\refstepcounter\H@refstepcounter
7551 \H@equation
7552 \@ifundefined{theHequation}{%
7553 \make@stripped@name{\theequation}%
7554 \let\theHequation\newname
7555 }{}%
7556 \hyper@makecurrent{equation}%

```

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

```

7557 \mathopen{%
7558 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7559 }%
7560 \let\refstepcounter\new@refstepcounter
7561 }%
7562 \def\endequation{%
7563 \ifx\Hy@raisedlink\tx@empty
7564 \hyper@anchorend
7565 \else
7566 \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7567 \fi
7568 \H@endequation
7569 }%
7570 }

```

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.

```

7571 \newif\if@eqnstar
7572 \@eqnstarfalse
7573 \let\H@eqnarray\eqnarray
7574 \let\H@endeqnarray\endeqnarray
7575 \def\eqnarray{%
7576 \let\Hy@reserved@a\relax

```



```

7577 \def\@currentHref{}%
7578 \H@eqnarray
7579 \if@eqnstar
7580 \else
7581 \ifx\\\@currentHref\\%
7582 \else
7583 \@ifundefined{theHequation}{%
7584 \make@stripped@name{\theequation}%
7585 \let\theHequation\newname
7586 }{}%
7587 \hyper@makecurrent{equation}%
7588 \mathopen{%
7589 \Hy@raisedlink{%
7590 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7591 }%
7592 }%
7593 \fi
7594 \fi
7595 }
7596 \def\endeqnarray{%
7597 \H@endeqnarray
7598 }

```

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.

```

7599 \@namedef{eqnarray*}{%
7600 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
7601 }
7602 \@namedef{endeqnarray*}{%
7603 \nonumber\endeqnarray\@eqnstarfalse
7604 }

```

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

```

7605 \ltx@ifundefined{subeqnarray}{}{}%
7606 \let\H@subeqnarray\subeqnarray
7607 \let\H@endsubeqnarray\endsubeqnarray
7608 \def\subeqnarray{%
7609 \let\Hy@reserved@a\relax
7610 \H@subeqnarray
7611 \@ifundefined{theHequation}{%
7612 \make@stripped@name{\theequation}%
7613 \let\theHequation\newname
7614 }{}%
7615 \hyper@makecurrent{equation}%
7616 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7617 }%
7618 \def\endsubeqnarray{%
7619 \H@endsubeqnarray

```

```

7620 }%
7621 \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7622 }

```

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

```

7623 \def\make@stripped@name#1{%
7624 \begingroup
7625 \escapechar\m@ne
7626 \global\let\newname\@empty
7627 \protected@edef\Hy@tempa{#1}%
7628 \edef\@tempb{%
7629 \noexpand\@tfor\noexpand\Hy@tempa:=%
7630 \expandafter\strip@prefix\meaning\Hy@tempa
7631 }%
7632 \@tempb\do{%
7633 \if{\Hy@tempa\else
7634 \if}\Hy@tempa\else
7635 \xdef\newname{\newname\Hy@tempa}%
7636 \fi
7637 \fi
7638 }%
7639 \endgroup
7640 }

```

Support for amsmath's subequations:

```

7641 \begingroup\expandafter\expandafter\expandafter\endgroup
7642 \expandafter\ifx\csname subequations\endcsname\relax
7643 \else
7644 \let\HyOrg@subequations\subequations
7645 \def\subequations{%
7646 \stepcounter{equation}%
7647 \protected@edef\theHparentequation{%
7648 \@ifundefined{theHequation}\theequation\theHequation
7649 }%
7650 \addtocounter{equation}{-1}%
7651 \HyOrg@subequations
7652 \def\theHequation{\theHparentequation\alph{equation}}%
7653 \ignorespaces
7654 }%
7655 \fi

```

Support for package `amsthm` (Daniel Müllner):

```

7656 \@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
7657 \def\Hy@temp#1#2#3{%

```

```

7658 \ifhmode\unskip\unskip\par\fi
7659 \normalfont
7660 \trivlist
7661 \let\thmheadnl\relax
7662 \let\thm@swap\@gobble
7663 \let\thm@indent\indent % indent
7664 \thm@headfont{\scshape}% heading font small caps
7665 \thm@notefont{\fontseries\mddefault\upshape}%
7666 \thm@headpunct{.}% add period after heading
7667 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7668 \thm@space@setup
7669 #1% style overrides
7670 \@topsep \thm@preskip % used by thm head
7671 \@topsepadd \thm@postskip % used by \@endparenv
7672 \def\@tempa{#2}\ifx\@empty\@tempa
7673 \def\@tempa{\@oparg{\@begintheorem{#3}{}}}%
7674 \else
7675 \refstepcounter{#2}%
7676 \def\@tempa{%
7677 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7678 }%
7679 \fi
7680 \@tempa
7681 }%
7682 \ifx\Hy@temp\@thm
7683 \def\@thm#1#2#3{%
7684 \ifhmode
7685 \unskip\unskip\par
7686 \fi
7687 \normalfont
7688 \trivlist
7689 \let\thmheadnl\relax
7690 \let\thm@swap\@gobble
7691 \let\thm@indent\indent % indent
7692 \thm@headfont{\scshape}% heading font small caps
7693 \thm@notefont{\fontseries\mddefault\upshape}%
7694 \thm@headpunct{.}% add period after heading
7695 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7696 \thm@space@setup
7697 #1% style overrides
7698 \@topsep \thm@preskip % used by thm head
7699 \@topsepadd \thm@postskip % used by \@endparenv
7700 \def\@th@counter{#2}%
7701 \ifx\@empty\@th@counter
7702 \def\@tempa{%
7703 \@oparg{\@begintheorem{#3}{}}}%
7704 }%
7705 \else
7706 \H@refstepcounter{#2}%
7707 \hyper@makecurrent{#2}%

```

```

7708     \let\Hy@dth@currentHref\@currentHref
7709     \def\@tempa{%
7710         \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7711     }%
7712     \fi
7713     \@tempa
7714 }%
7715 \else
7716 \def\@thm#1#2#3{%
7717     \ifhmode
7718         \unskip\unskip\par
7719     \fi
7720     \normalfont
7721     \trivlist
7722     \let\thmheadnl\relax
7723     \let\thm@swap\@gobble
7724     \thm@notefont{\fontseries\mddefault\upshape}%
7725     \thm@headpunct{.}% add period after heading
7726     \thm@headsep 5\p@ plus\p@ minus\p@\relax
7727     \thm@space@setup
7728     #1% style overrides
7729     \@topsep \thm@preskip           % used by thm head
7730     \@topsepadd \thm@postskip       % used by \@endparenv
7731     \def\dth@counter{#2}%
7732     \ifx\@empty\dth@counter
7733         \def\@tempa{%
7734             \@oparg{\@begintheorem{#3}{}}{}%
7735         }%
7736     \else
7737         \H@refstepcounter{#2}%
7738         \hyper@makecurrent{#2}%
7739         \let\Hy@dth@currentHref\@currentHref
7740         \def\@tempa{%
7741             \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7742         }%
7743     \fi
7744     \@tempa
7745 }%
7746 \fi
7747 \dth@everypar={%
7748     \@minipagefalse
7749     \global\@newlistfalse
7750     \@noparitemfalse
7751     \if@inlabel
7752         \global\@inlabelfalse
7753     \begingroup
7754         \setbox\z@\lastbox
7755         \ifvoid\z@
7756             \kern-\itemindent
7757     \fi

```

```

7758 \endgroup
7759 \ifx\@empty\dth@counter
7760 \else
7761 \Hy@raisedlink{%
7762 \hyper@anchorstart{%
7763 \ltx@ifundefined{Hy@dth@currentHref}%
7764 \@currentHref\Hy@dth@currentHref
7765 }\hyper@anchorend
7766 }%
7767 \fi
7768 \unhbox\@labels
7769 \fi
7770 \if@nobreak
7771 \clubpenalty\@M
7772 \else
7773 \clubpenalty\@clubpenalty \everypar{}%
7774 \fi
7775 }%
7776 }{}

```

## 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.

```

7777 \ifHy@hyperfootnotes
7778 \newcounter{Hfootnote}%
7779 \let\H@@@footnotetext\@footnotetext
7780 \let\H@@@footnotemark\@footnotemark
7781 \def\@xfootnotenext[#1]{%
7782 \begingroup
7783 \csname c@\@mpfn\endcsname #1\relax
7784 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7785 \endgroup
7786 \ifx\@footnotetext\@mpfootnotetext
7787 \expandafter\H@@@mpfootnotetext
7788 \else
7789 \expandafter\H@@@footnotetext
7790 \fi
7791 }%
7792 \def\@xfootnotemark[#1]{%
7793 \begingroup
7794 \c@footnote #1\relax
7795 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7796 \endgroup
7797 \H@@@footnotemark

```

```

7798 }%
7799 \let\H@@mpfootnotetext\@mpfootnotetext
7800 \long\def\@mpfootnotetext#1{%
7801   \H@@mpfootnotetext{%
7802     \ifHy@nesting
7803       \expandafter\ltx@firstoftwo
7804     \else
7805       \expandafter\ltx@secondoftwo
7806     \fi
7807   {%
7808     \expandafter\hyper@@anchor\expandafter{%
7809       \Hy@footnote@currentHref
7810     }{#1}%
7811   }{%
7812     \Hy@raisedlink{%
7813       \expandafter\hyper@@anchor\expandafter{%
7814         \Hy@footnote@currentHref
7815       }{\relax}%
7816     }#1%
7817   }%
7818 }%
7819 }%
7820 \long\def\@footnotetext#1{%
7821   \H@@@footnotetext{%
7822     \ifHy@nesting
7823       \expandafter\ltx@firstoftwo
7824     \else
7825       \expandafter\ltx@secondoftwo
7826     \fi
7827   {%
7828     \expandafter\hyper@@anchor\expandafter{%
7829       \Hy@footnote@currentHref
7830     }{#1}%
7831   }{%
7832     \Hy@raisedlink{%
7833       \expandafter\hyper@@anchor\expandafter{%
7834         \Hy@footnote@currentHref
7835       }{\relax}%
7836     }%
7837     \let\@currentHref\Hy@footnote@currentHref
7838     \let\@currentlabelname\@empty
7839     #1%
7840   }%
7841 }%
7842 }%

```

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.

```

7843 \def\@footnotemark{%
7844 \leavevmode
7845 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7846 \stepcounter{Hfootnote}%
7847 \global\let\Hy@saved@currentHref\@currentHref
7848 \hyper@makecurrent{Hfootnote}%
7849 \global\let\Hy@footnote@currentHref\@currentHref
7850 \global\let\@currentHref\Hy@saved@currentHref
7851 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7852 \@makefnmark
7853 \hyper@linkend
7854 \ifhmode\spacefactor\@x@sf\fi
7855 \relax
7856 }%

```

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

```

7857 \@ifpackageloaded{tabularx}{%
7858 \let\HyOrg@TX@endtabularx\TX@endtabularx
7859 \def\Hy@tabularx@hook{%
7860 \let\@footnotetext\H@@footnotetext
7861 \let\@footnotemark\H@@footnotemark
7862 \let\@mpfootnotetext\H@@mpfootnotetext
7863 }%
7864 \begingroup
7865 \toks@{\expandafter\TX@endtabularx}%
7866 \xdef\Hy@gtemp{%
7867 \noexpand\Hy@tabularx@hook
7868 \the\toks@
7869 }%
7870 \endgroup
7871 \let\TX@endtabularx\Hy@gtemp
7872 }{}%

```

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

```

7873 \@ifpackageloaded{longtable}{%
7874 \CheckCommand*\LT@p@ftntext}[1]{%
7875 \edef\@tempa{%
7876 \the\LT@p@ftn
7877 \noexpand\footnotetext[\the\c@footnote]%
7878 }%
7879 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7880 }%
7881 \long\def\LT@p@ftntext#1{%
7882 \edef\@tempa{%
7883 \the\LT@p@ftn

```

```

7884 \begingroup
7885 \noexpand\c@footnote=\the\c@footnote\relax
7886 \noexpand\protected@xdef\noexpand\@thefnmark{%
7887 \noexpand\thempfn
7888 }%
7889 \noexpand\Hy@LT@footnotetext{%
7890 \Hy@footnote@currentHref
7891 }%
7892 }%
7893 \global\LT@p@ftn\expandafter{%
7894 \@tempa{#1}%
7895 \endgroup
7896 }%
7897 }%
7898 \long\def\Hy@LT@footnotetext#1#2{%
7899 \H@@@footnotetext{%
7900 \ifHy@nesting
7901 \hyper@@@anchor{#1}{#2}%
7902 \else
7903 \Hy@raisedlink{%
7904 \hyper@@@anchor{#1}{\relax}%
7905 }%
7906 \def\@currentHref{#1}%
7907 \let\@currentlabelname\@empty
7908 #2%
7909 \fi
7910 }%
7911 }%
7912 }{}%

```

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

```

7913 \ifpackageloaded{fancyvrb}{%
7914 \def\V@@@footnotetext{%
7915 \insert\footins\bgroup
7916 \csname reset@font\endcsname
7917 \footnotesize
7918 \interlinepenalty\interfootnotelinepenalty
7919 \splittopskip\footnotesep
7920 \splitmaxdepth\dp\strutbox
7921 \floatingpenalty \@MM
7922 \hsize\columnwidth
7923 \@parboxrestore
7924 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7925 \@makefnmark}%
7926 \rule{\z@}{\footnotesep}%
7927 \bgroup
7928 \aftergroup\V@@@footnotetext
7929 \Hy@raisedlink{%
7930 \expandafter\hyper@@@anchor\expandafter{%
7931 \Hy@footnote@currentHref

```



```

7932     }\relax}%
7933   }%
7934   \let\@currentHref\Hy@footnote@currentHref
7935   \let\@currentlabelname\@empty
7936   \ignorespaces
7937 }%
7938 }{}%

```

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

```

7939 \def\Hy@temp#1{%
7940   \begingroup
7941     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7942   \endgroup
7943   \@footnotemark
7944 }%
7945 \ifx\Hy@temp\footref
7946   \def\footref#1{%
7947     \begingroup
7948       \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7949     \endgroup
7950     \H@@@footnotemark
7951   }%
7952 \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.

```

7953 \let\HyOrg@maketitle\maketitle
7954 \def\maketitle{%
7955   \let\Hy@saved@footnotemark\@footnotemark
7956   \let\Hy@saved@footnotetext\@footnotetext
7957   \let\@footnotemark\H@@@footnotemark
7958   \let\@footnotetext\H@@@footnotetext
7959   \@ifnextchar[\Hy@maketitle@optarg{% ]
7960     \HyOrg@maketitle
7961     \Hy@maketitle@end
7962   }%
7963 }%
7964 \def\Hy@maketitle@optarg[#1]{%
7965   \HyOrg@maketitle[{#1}]%
7966   \Hy@maketitle@end
7967 }%
7968 \def\Hy@maketitle@end{%
7969   \ifx\@footnotemark\H@@@footnotemark
7970     \let\@footnotemark\Hy@saved@footnotemark
7971   \fi
7972   \ifx\@footnotetext\H@@@footnotetext
7973     \let\@footnotetext\Hy@saved@footnotetext
7974   \fi

```

```

7975 }%

\realfootnote Does anyone remember the function and purpose of \realfootnote?
7976 \def\realfootnote{%
7977   \@ifnextchar[\@xfootnote{%
7978     \stepcounter{\@mpfn}%
7979     \protected@xdef\@thefnmark{\thempfn}%
7980     \H@@footnotemark\H@@footnotetext
7981   }%
7982 }%

7983 \fi
7984 \Hy@DisableOption{hyperfootnotes}

7985 </package>
7986 <*check>
7987 \checklatex
7988 \checkcommand\def\@xfootnotenext[#1]{%
7989   \begingroup
7990   \csname c@\@mpfn\endcsname #1\relax
7991   \unrestored@protected@xdef\@thefnmark{\thempfn}%
7992 \endgroup
7993 \@footnotetext
7994 }
7995 \checkcommand\def\@xfootnotemark[#1]{%
7996   \begingroup
7997   \c@footnote #1\relax
7998   \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7999 \endgroup
8000 \@footnotemark
8001 }
8002 \checkcommand\def\@footnotemark{%
8003   \leavevmode
8004   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
8005   \@makefnmark
8006   \ifhmode\spacefactor\@x@sf\fi
8007   \relax
8008 }
8009 </check>
8010 <*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.

```

8011 \def\caption{%
8012   \ifx\@capytype\@undefined
8013     \@latex@error{\noexpand\caption outside float}\@ehd
8014     \expandafter\@gobble

```

```

8015 \else
8016 \H@refstepcounter\@capttype
8017 \let\Hy@tempa\@caption
8018 \@ifundefined{float@caption}{%
8019 }{%
8020 \expandafter\ifx\csname @float@c@\@capttype\endcsname
8021 \float@caption
8022 \let\Hy@tempa\Hy@float@caption
8023 \fi
8024 }%
8025 \expandafter\@firstofone
8026 \fi
8027 {\@dblarg{\Hy@tempa\@capttype}}%
8028 }
8029 \long\def\@caption#1[#2]#3{%
8030 \expandafter\ifx\csname if@capstart\expandafter\endcsname
8031 \csname iftrue\endcsname
8032 \global\let\@currentHref\hc@currentHref
8033 \else
8034 \hyper@makecurrent{\@capttype}%
8035 \fi
8036 \@ifundefined{NR@gettitle}{%
8037 \def\@currentlabelname{#2}%
8038 }{%
8039 \NR@gettitle{#2}%
8040 }%
8041 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
8042 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
8043 }%
8044 \begingroup
8045 \@parboxrestore
8046 \if@minipage
8047 \@setminipage
8048 \fi
8049 \normalsize
8050 \expandafter\ifx\csname if@capstart\expandafter\endcsname
8051 \csname iftrue\endcsname
8052 \global\@capstartfalse
8053 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
8054 \else
8055 \@makecaption{\csname fnum@#1\endcsname}{%
8056 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

8057 \ifHy@nesting
8058 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
8059 \else
8060 \Hy@raisedlink{%
8061 \expandafter\hyper@@anchor\expandafter{%
8062 \@currentHref

```

```

8063         }{\relax}%
8064     }%
8065     #3%
8066     \fi
8067 }%
8068 \fi
8069 \par
8070 \endgroup
8071 }

```

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’.

```

8072 \let\Hy@float@caption\@caption
8073 \newcommand{\HyNew@float@makebox}[1]{%
8074   \HyOrg@float@makebox{%
8075     #1\relax
8076     \ifx\Hy@float@currentHref\@undefined
8077     \else
8078       \expandafter\hyper@@anchor\expandafter{%
8079         \Hy@float@currentHref
8080       }{\relax}%
8081     \global\let\Hy@float@currentHref\@undefined
8082     \fi
8083   }%
8084 }%
8085 \ifpackageloaded{float}{%
8086   \def\Hy@float@caption{%
8087     \ifx\Hy@float@currentHref\@undefined
8088       \hyper@makecurrent{\@capttype}%
8089       \global\let\Hy@float@currentHref\@currentHref
8090     \else
8091       \let\@currentHref\Hy@float@currentHref
8092     \fi
8093     \float@caption
8094   }%
8095   \let\HyOrg@float@makebox\float@makebox
8096   \let\float@makebox\HyNew@float@makebox
8097 }{}

8098 \</package>
8099 \<*check>
8100 \checklatex[1999/06/01 - 2000/06/01]
8101 \checkcommand\def\caption{%
8102   \ifx\@capttype\@undefined
8103     \@latex@error{\noexpand\caption outside float}\@ehd
8104     \expandafter\@gobble
8105   \else

```

```

8106 \refstepcounter\@captype
8107 \expandafter\@firstofone
8108 \fi
8109 {\@dblarg{\@caption\@captype}}}%
8110 }
8111 \checkcommand\long\def\@caption#1[#2]#3{%
8112 \par
8113 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
8114 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
8115 }%
8116 \begingroup
8117 \@parboxrestore
8118 \if@minipage
8119 \@setminipage
8120 \fi
8121 \normalsize
8122 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
8123 \endgroup
8124 }
8125 \</check>
8126 \<*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, let's make an attempt to get *natbib* right, because that's a powerful, important package. Patrick Daly ([daly@linmpi.mpg.de](mailto:daly@linmpi.mpg.de)) has provided hooks for us, so all we need to do is activate them.

```

8127 \def\hyper@natlinkstart#1{%
8128 \Hy@backout{#1}%
8129 \hyper@linkstart{cite}{cite.#1}%
8130 \def\hyper@nat@current{#1}%
8131 }
8132 \def\hyper@natlinkend{%
8133 \hyper@linkend
8134 }
8135 \def\hyper@natlinkbreak#1#2{%
8136 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
8137 }
8138 \def\hyper@natanchorstart#1{%
8139 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
8140 }
8141 \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.

```

8142 \ltx@ifundefined{NAT@parse}{%
8143   \providecommand*\@extra@binfo{}%
8144   \providecommand*\@extra@b@citeb{}%
8145   \def\bibcite#1#2{%
8146     \@newl@bel{b}{#1\@extra@binfo}{%
8147       \hyper@@link[cite]{}{cite.#1\@extra@b@citeb}{#2}%
8148     }%
8149   }%
8150   \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.”.

```

8151 \let\Hy@bibcite\bibcite
8152 \begingroup
8153   \@ifundefined{bbl@cite@choice}{}{%
8154     \g@addto@macro\bbl@cite@choice{%
8155       \let\bibcite\Hy@bibcite
8156     }%
8157   }%
8158 \endgroup

```

\@BIBLABEL is working around a ‘feature’ of RevT<sub>E</sub>X.

```

8159 \providecommand*\@BIBLABEL{\@biblabel}%
8160 \def\@lbibitem[#1]#2{%
8161   \@skiphyperrtrue
8162   \H@item[%
8163     \ifx\Hy@raisedlink\@empty
8164       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
8165       \@BIBLABEL{#1}%
8166     \hyper@anchorend
8167   \else
8168     \Hy@raisedlink{%
8169       \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
8170     }%
8171     \@BIBLABEL{#1}%
8172   \fi
8173   \hfill
8174 ]%
8175 \@skiphyperrfalse
8176 \if@filesw
8177   \begingroup
8178     \let\protect\noexpand
8179     \immediate\write\@auxout{%
8180       \string\bibcite{#2}{#1}%
8181     }%
8182   \endgroup

```

```

8183 \fi
8184 \ignorespaces
8185 }%

```

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

```

8186 \def\@bibitem#1{%
8187   \@skiphyperreftrue\H@item\@skiphyperreffalse
8188   \Hy@raisedlink{%
8189     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
8190   }%
8191   \if@filesw
8192     \begingroup
8193     \let\protect\noexpand
8194     \immediate\write\@auxout{%
8195       \string\bibcite{#1}{\the\value{\@listctr}}}%
8196     }%
8197   \endgroup
8198   \fi
8199   \ignorespaces
8200 }%
8201 }{}

8202 </package>
8203 <*check>
8204 \checklatex
8205 \checkcommand\def\@lbibitem[#1]#2{%
8206   \item[\@biblabel{#1}\hfill]%
8207   \if@filesw
8208     {%
8209       \let\protect\noexpand
8210       \immediate\write\@auxout{%
8211         \string\bibcite{#2}{#1}%
8212       }%
8213     }%
8214   \fi
8215   \ignorespaces
8216 }
8217 \checkcommand\def\@bibitem#1{%
8218   \item
8219   \if@filesw
8220     \immediate\write\@auxout{%
8221       \string\bibcite{#1}{\the\value{\@listctr}}}%
8222     }%
8223   \fi
8224   \ignorespaces
8225 }
8226 </check>
8227 <*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.

```

8228 \ifclassloaded{revtex}{}%
8229 \Hy@Info{*** compatibility with revtex **** }%
8230 \def\revtex@checking#1#2{%
8231 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
8232 \expandafter\def\csname b@#1\endcsname{#2}%
8233 \@SetMaxRnhefLabel{#1}%
8234 \expandafter\let\csname b@#1\endcsname\T@temp
8235 }%

```

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

```

8236 \@ifundefined{@CITE}{\def\CITE{\cite}}{}%
8237 \providecommand*{\@extra@b@citeb}{}%
8238 \def\CITE[#1]#2{%
8239 \let\citea\@empty
8240 \leavevmode
8241 \unskip
8242 $^{}%
8243 \scriptstyle
8244 \@CITE{%
8245 \@for\citeb:=#2\do{%
8246 \citea
8247 \def\citea{\penalty\@m\ }%
8248 \edef\citeb{\expandafter\@firstofone\citeb}%
8249 \if@filesw
8250 \immediate\write\@auxout{\string\citation{\citeb}}%
8251 \fi
8252 \@ifundefined{b@\citeb\extra@b@citeb}{}%
8253 \mbox{\reset@font\bfseries ?}%
8254 \G@refundefinedtrue
8255 \@latex@warning{%
8256 Citation '\citeb' on page \thepage \space undefined%
8257 }%
8258 }{%
8259 {\csname b@\citeb\extra@b@citeb\endcsname}%
8260 }%
8261 }%
8262 }{#1}%
8263 }$%
8264 }%

```

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.

```

8265 \def\citex[#1]#2{%
8266 \let\citea\@empty
8267 \cite{%
8268 \@for\citeb:=#2\do{%
8269 \citea

```



```

8270 \def\citea{\penalty\@m\}%
8271 \edef\citeb{\expandafter\@firstofone\citeb}%
8272 \if@filesw
8273 \immediate\write\@auxout{\string\citation{\citeb}}%
8274 \fi
8275 \ifundefined{b@\citeb\extra@b\citeb}{%
8276 \mbox{\reset@font\bfseries ?}%
8277 \G@refundefinedtrue
8278 \latex@warning{%
8279 Citation '\citeb' on page \thepage \space undefined%
8280 }%
8281 }%
8282 \hbox{\csname b@\citeb\extra@b\citeb\endcsname}%
8283 }%
8284 }%
8285 }{#1}%
8286 }%
8287 }{}

```

### 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 pdf $\TeX$ , then `hyperref` is already loaded at the begin of `harvard.sty`, and the `\newcommand` macros causes error messages.

```

8288 \ifpackageloaded{harvard}{%
8289 \Hy@AtBeginDocument{%
8290 \Hy@Info{*** compatibility with harvard ****}%
8291 \Hy@raiselinksfalse
8292 \def\harvardcite#1#2#3#4{%
8293 \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{#1}{#2}}%
8294 \global\@namedef{HAR@an@#1}{\hyper@link[cite]{#1}{#3}}%
8295 \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{#1}{#4}}%
8296 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
8297 }%
8298 \def\HAR@citetoaux#1{%
8299 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
8300 \ifHy@backref
8301 \ifx\@empty\@currentlabel
8302 \else
8303 \@bsphack
8304 \if@filesw
8305 \protected@write\@auxout{}{%
8306 \string\@writefile{brf}{%
8307 \string\backcite{#1}{%
8308 {\thepage}{\@currentlabel}{\@currentHref}%

```

```

8309         }%
8310     }%
8311 }%
8312 \fi
8313 \@esphack
8314 \fi
8315 \fi
8316 }%
8317 \def\harvarditem{%
8318     \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
8319 }%
8320 \def\@harvarditem[#1]#2#3#4#5\par{%
8321     \item[]%
8322     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
8323     \if@filesw
8324         \begingroup
8325         \def\protect##1{\string ##1\space}%
8326         \ifthenelse{\equal{#1}{\null}}{%
8327             {\def\next{{#4}{#2}{#2}{#3}}}%
8328             {\def\next{{#4}{#2}{#1}{#3}}}%
8329             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
8330         \endgroup
8331     \fi
8332     \protect\hspace*{-\labelwidth}%
8333     \protect\hspace*{-\labelsep}%
8334     \ignorespaces
8335     #5%
8336     \ifHy@backref
8337         \newblock
8338         \backref{\csname br@#4\endcsname}%
8339     \fi
8340     \par
8341 }%

```

\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:

```

8342 \long\def\HAR@checkcitations#1#2#3#4{%
8343     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
8344     \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
8345         \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
8346         \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
8347             \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
8348             \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
8349                 \else
8350                     \@tempswatrue
8351                 \fi
8352             \else
8353                 \@tempswatrue
8354             \fi

```

```

8355     \else
8356         \@tempswatrue
8357     \fi
8358 }%
8359 }%

8360 }{}

```

## 38.2 Package chicago

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

```

8361 \@ifpackageloaded{chicago}{%

\citeN
8362 \def\citeN{%
8363     \def\@citesep{-1000}%
8364     \def\@cite##1##2{##1}%
8365     \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
8366     \@citedata@opt
8367 }%

\shortciteN
8368 \def\shortciteN{%
8369     \def\@citesep{-1000}%
8370     \def\@cite##1##2{##1}%
8371     \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
8372     \@citedata@opt
8373 }%

\@citedata@opt
8374 \def\@citedata@opt{%
8375     \let\@cite@opt\@empty
8376     \@ifnextchar [{%
8377         \@tempswatrue
8378         \@citedatax@opt
8379     }{%
8380         \@tempswafalse
8381         \@citedatax[]%
8382     }%
8383 }%

\@citedatax@opt
8384 \def\@citedatax@opt[#1]{%
8385     \def\@cite@opt{, #1}%
8386     \@citedatax[{#1}]%
8387 }%

8388 }{}

```

## 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.

```

8389 \ltx@ifclassloaded{slides}{%
8390   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
8391   \def\Hy@PageAnchorSlidesPlain{%
8392     \advance\c@page\ltx@one
8393     \edef\Hy@TempPageAnchor{%
8394       \noexpand\hyper@@@anchor{%
8395         page.\the\c@slide.\the\c@overlay.\the\c@note%
8396         \ifnum\c@page=\ltx@one
8397           \else
8398             .\the\c@page
8399           \fi
8400         }%
8401       }%
8402       \advance\c@page-\ltx@one
8403     }%
8404     \def\Hy@PageAnchorSlide{%
8405       \advance\c@page\ltx@one
8406       \ifnum\c@page>\ltx@one
8407         \ltx@ifundefined{theHpage}{%
8408           \protected@edef\Hy@TheSlideOptionalPage{%
8409             \Hy@SlidesFormatOptionalPage{\thepage}%
8410           }%
8411         }{%
8412           \protected@edef\Hy@TheSlideOptionalPage{%
8413             \Hy@SlidesFormatOptionalPage{\theHpage}%
8414           }%
8415         }%
8416       \else
8417         \def\Hy@TheSlideOptionalPage{}%
8418       \fi
8419       \advance\c@page-\ltx@one
8420       \pdfstringdef\@theH@page{%
8421         \csname
8422           the%
8423           \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
8424           \Hy@SlidesPage
8425         \endcsname
8426       \Hy@TheSlideOptionalPage
8427     }%
8428     \ltx@gobblethree
8429   }%

```

```

8430 \def\Hy@SlidesPage{slide}%
8431 \g@addto@macro\slide{%
8432   \def\Hy@SlidesPage{slide}%
8433 }%
8434 \g@addto@macro\overlay{%
8435   \def\Hy@SlidesPage{overlay}%
8436 }%
8437 \g@addto@macro\note{%
8438   \def\Hy@SlidesPage{note}%
8439 }%
8440 }{%
8441 \def\Hy@PageAnchorSlidesPlain{}%
8442 \def\Hy@PageAnchorSlide{}%
8443 }
8444 \def\Hy@EveryPageAnchor{%
8445   \Hy@DistillerDestFix
8446   \ifHy@pageanchor
8447     \ifHy@hypertextnames
8448       \ifHy@plainpages
8449         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
8450         \Hy@PageAnchorSlidesPlain
8451       \else
8452         \begingroup
8453           \let\@number\@firstofone
8454           \Hy@unicodedefalse
8455           \Hy@PageAnchorSlide
8456           \pdfstringdef\@the@H@page{\thepage}%
8457         \endgroup
8458         \EdefUnescapeString\@the@H@page{\@the@H@page}%
8459         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
8460       \fi
8461     \else
8462       \Hy@GlobalStepCount\Hy@pagecounter
8463       \def\Hy@TempPageAnchor{%
8464         \hyper@@anchor{page.\the\Hy@pagecounter}%
8465       }%
8466     \fi
8467   \vbox to 0pt{%
8468     \kern\voffset
8469     \kern\topmargin
8470     \kern-1bp\relax
8471     \hbox to 0pt{%
8472       \kern\hoffset
8473       \kern\ifodd\value{page}%
8474         \oddsidemargin
8475       \else
8476         \evensidemargin
8477       \fi
8478       \kern-1bp\relax
8479       \Hy@TempPageAnchor\relax

```

```

8480     \hss
8481   }%
8482   \vss
8483 }%
8484 \fi
8485 }
8486 \g@addto@macro\Hy@EveryPageBoxHook{%
8487   \Hy@EveryPageAnchor
8488 }

```

## 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.

```

8489 \def\addcontentsline#1#2#3{% toc extension, type, tag
8490   \begingroup
8491     \let\label\@gobble
8492     \ifx\@currentHref\@empty
8493       \Hy@Warning{%
8494         No destination for bookmark of \string\addcontentsline,%
8495         \MessageBreak destination is added%
8496       }%
8497     \phantomsection
8498   \fi
8499   \expandafter\ifx\csize toplevel@#2\endcsize\relax
8500   \begingroup
8501     \def\Hy@tempa{#1}%
8502     \ifx\Hy@tempa\Hy@bookmarkstype
8503       \Hy@WarningNoLine{%
8504         bookmark level for unknown #2 defaults to 0%
8505       }%
8506     \else
8507       \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8508     \fi
8509   \endgroup
8510   \expandafter\gdef\csize toplevel@#2\endcsize{0}%
8511   \fi
8512   \edef\Hy@toclevel{\csize toplevel@#2\endcsize}%
8513   \Hy@writebookmark{\csize the#2\endcsize}%
8514     {#3}%
8515     {\@currentHref}%
8516     {\Hy@toclevel}%
8517     {#1}%
8518   \ifHy@verbose
8519     \begingroup
8520       \def\Hy@tempa{#3}%
8521       \@onelevel@sanitize\Hy@tempa

```

```

8522 \let\temp@online\on@line
8523 \let\on@line\@empty
8524 \Hy@Info{%
8525   bookmark\temp@online:\MessageBreak
8526   thecounter {\csname the#2\endcsname}\MessageBreak
8527   text {\Hy@tempa}\MessageBreak
8528   reference {\@currentHref}\MessageBreak
8529   toplevel {\Hy@toclevel}\MessageBreak
8530   type {\#1}%
8531 }%
8532 \endgroup
8533 \fi
8534 \addtocontents{\#1}{%
8535   \protect\contentsline{\#2}{\#3}{\thepage}{\@currentHref}%
8536 }%
8537 \endgroup
8538 }

```

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

```

8539 \def\contentsline#1#2#3#4{%
8540   \begingroup
8541   \Hy@safe@activetrue
8542   \edef\x{\endgroup
8543     \def\noexpand\Hy@tocdestname{\#4}%
8544   }\x
8545   \ifx\Hy@tocdestname\ltx@empty
8546     \csname l@#1\endcsname{\#2}{\#3}%
8547   \else
8548     \ifcase\Hy@linktoc % none
8549       \csname l@#1\endcsname{\#2}{\#3}%
8550     \or % section
8551       \csname l@#1\endcsname{%
8552         \hyper@linkstart{link}{\Hy@tocdestname}{\#2}\hyper@linkend
8553       }{\#3}%
8554     \or % page
8555       \def\Hy@temp{\#3}%
8556       \ifx\Hy@temp\ltx@empty
8557         \csname l@#1\endcsname{\#2}{\#3}%
8558       \else
8559         \csname l@#1\endcsname{{\#2}}{%
8560           \hyper@linkstart{link}{\Hy@tocdestname}{\#3}\hyper@linkend
8561         }%
8562       \fi
8563     \else % all
8564       \def\Hy@temp{\#3}%
8565       \ifx\Hy@temp\ltx@empty
8566         \csname l@#1\endcsname{%
8567           \hyper@linkstart{link}{\Hy@tocdestname}{\#2}\hyper@linkend
8568         }{}%

```

```

8569     \else
8570         \csname l@#1\endcsname{%
8571             \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8572         }{%
8573             \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8574         }%
8575     \fi
8576 \fi
8577 \fi
8578 }

8579 </package>
8580 <*check>
8581 \checklatex
8582 \checkcommand\def\addcontentsline#1#2#3{%
8583     \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
8584 }
8585 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8586 </check>
8587 <*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.

```

8588 \let\H@definecounter\@definecounter
8589 \def\@definecounter#1{%
8590     \H@definecounter{#1}%
8591     \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8592 }

```

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.

```

8593 \let\H@newctr\@newctr
8594 \def\@newctr#1[#2]{%
8595     \H@newctr#1[{#2}]%
8596     \expandafter\gdef\csname theH#1\endcsname{%
8597         \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
8598     }%
8599 }

```

## 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.

```

8600 \ifpackageloaded{amsmath}{%
8601   \def\Hy@make@anchor{%
8602     \Hy@MakeCurrentHrefAuto{AMS}%
8603     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8604   }%
8605   \def\Hy@make@df@tag@@#1{%
8606     \gdef\df@tag{%
8607       \maketag@@@{\Hy@make@anchor#1}%
8608       \def\@currentlabel{#1}%
8609     }%
8610   }%
8611   \def\Hy@make@df@tag@@@#1{%
8612     \gdef\df@tag{%
8613       \tagform@{\Hy@make@anchor#1}%
8614       \toks@{\xp{\p@equation{#1}}}%
8615       \edef\@currentlabel{\the\toks@}%
8616     }%
8617   }%
8618   \let\HyOrg@make@df@tag@@\make@df@tag@@
8619   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8620   \let\make@df@tag@@\Hy@make@df@tag@@
8621   \let\make@df@tag@@@\Hy@make@df@tag@@@
8622 }{}

```

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

```

8623 \ifpackagewith{hyperref}{pdfTeX}{%
8624   \let\H@seteqlabel\@seteqlabel
8625   \def\@seteqlabel#1{%
8626     \H@seteqlabel{#1}%
8627     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8628     \Hy@raisedlink{%
8629       \hyper@anchorstart{\@currentHref}\hyper@anchorend
8630     }%
8631   }%
8632 }{}

```

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.

```

8633 \let\HyOrg@addtoreset\@addtoreset
8634 \def\@addtoreset#1#2{%
8635   \HyOrg@addtoreset{#1}{#2}%
8636   \expandafter\xdef\csname theH#1\endcsname{%
8637     \expandafter\noexpand
8638       \csname the\@ifundefined{theH#2}{}H#2\endcsname
8639     .\noexpand\the\noexpand\value{#1}%
8640   }%
8641 }
```

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

```

8642 </package>
8643 <*check>
8644 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8645 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8646   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8647     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8648       \@addtoreset{#2}{#3}%
8649       \@xp\xdef\csname the#2\endcsname{%
8650         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8651       }%
8652     }%
8653   }%
8654 }%
8655 </check>
8656 <*package>
8657 \@ifpackageloaded{amsmath}{%
8658   \@ifpackagelater{amsmath}{1999/12/14}{%
8659     \renewcommand*\numberwithin[3][\arabic]{%
8660       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8661         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8662           \HyOrg@addtoreset{#2}{#3}%
8663           \@xp\xdef\csname the#2\endcsname{%
8664             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8665           }%
8666           \@xp\xdef\csname theH#2\endcsname{%
8667             \@xp\@nx
8668             \csname the\@ifundefined{theH#3}{}H#3\endcsname
8669             .\@nx#1{#2}%
8670           }%
8671         }%
8672       }%
8673     }%
8674   }%
8675 }
```

```

8673 }%
8674 }{%
8675 \Hy@WarningNoLine{%
8676 \string\numberwithin\space of package 'amsmath' %
8677 only fixed\MessageBreak
8678 for version 2000/06/06 v2.12 or newer%
8679 }%
8680 }%
8681 }{}

```

## 43 Included figures

Simply intercept the low level graphics package macro.

```

8682 \ifHy@hyperfigures
8683 \let\Hy@Gin@setfile\Gin@setfile
8684 \def\Gin@setfile#1#2#3{%
8685 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8686 }%
8687 \fi
8688 \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.

```

8689 \ifHy@hyperindex
8690 \def\HyInd@ParenLeft{({}%
8691 \def\HyInd@ParenRight{)}}%
8692 \def\hyperindexformat#1#2{%
8693 \let\HyOrg@hyperpage\hyperpage
8694 \let\hyperpage\@firstofone
8695 #1{\HyOrg@hyperpage{#2}}%
8696 \let\hyperpage\HyOrg@hyperpage
8697 }%
8698 \Hy@nextfalse
8699 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8700 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8701 \@ifpackageloaded{amsidx}{\Hy@nexttrue}{}%
8702 \begingroup

```

```

8703 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
8704 \lccode'\|/='\\relax
8705 \lowercase{\endgroup
8706 \ifHy@next
8707 \let\HyInd@org@wrindex\@wrindex
8708 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
8709 \def\HyInd@@wrindex#1#2|#3|#4\{\%
8710 \ifx\\#3\%
8711 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8712 \else
8713 \HyInd@@@wrindex{#1}{#2}#3\%
8714 \fi
8715 }%
8716 \def\HyInd@@@wrindex#1#2#3#4\{\%
8717 \def\Hy@temp@A{#3}%
8718 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8719 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8720 \relax
8721 \HyInd@org@wrindex{#1}{%
8722 #2|hyperindexformat{/#3#4}%
8723 }%
8724 \else
8725 \ifx\\#4\%
8726 \ifx\Hy@temp@A\HyInd@ParenRight
8727 \HyInd@org@wrindex{#1}{#2|#3}%
8728 \else
8729 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8730 \fi
8731 \else
8732 \HyInd@org@wrindex{#1}{%
8733 #2|#3hyperindexformat{/#4}%
8734 }%
8735 \fi
8736 \fi
8737 }%
8738 \else
8739 \def\@wrindex#1{\@@wrindex#1||\}%
8740 \def\@@wrindex#1|#2|#3\{\%
8741 \if@files
8742 \ifx\\#2\%
8743 \protected@write\@indexfile{\%
8744 \string\indexentry{#1|hyperpage}{\thepage}%
8745 }%
8746 \else
8747 \HyInd@@@wrindex{#1}#2\%
8748 \fi
8749 \fi
8750 \endgroup
8751 \@esphack
8752 }%

```

```

8753 \def\HyInd@@@wrindex#1#2#3\\{%
8754 \def\Hy@temp@A{#2}%
8755 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8756 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8757 \relax
8758 \protected@write\@indexfile{}{%
8759 \string\indexentry{%
8760 #1|hyperindexformat{/#2#3}%
8761 }\the page}%
8762 }%
8763 \else
8764 \ifx\\#3\\%
8765 \ifx\Hy@temp@A\HyInd@ParenRight
8766 \HyInd@DefKey{#1}%
8767 \ltx@ifundefined{HyInd@(\HyInd@key)}{%
8768 \let\Hy@temp\ltx@empty
8769 }{%
8770 \expandafter\let\expandafter\Hy@temp
8771 \csname HyInd@(\HyInd@key)\endcsname
8772 }%
8773 \protected@write\@indexfile{}{%
8774 \string\indexentry{#1|#2\Hy@temp}\the page}%
8775 }%
8776 \else
8777 \protected@write\@indexfile{}{%
8778 \string\indexentry{#1|#2hyperpage}\the page}%
8779 }%
8780 \HyInd@DefKey{#1}%
8781 \expandafter
8782 \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8783 hyperpage%
8784 }%
8785 \fi
8786 \else
8787 \protected@write\@indexfile{}{%
8788 \string\indexentry{%
8789 #1|#2hyperindexformat{/#3}%
8790 }\the page}%
8791 }%
8792 \ifx\Hy@temp@A\HyInd@ParenLeft
8793 \HyInd@DefKey{#1}%
8794 \expandafter
8795 \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8796 hyperindexformat{/#3}%
8797 }%
8798 \fi
8799 \fi
8800 \fi
8801 }%
8802 \def\HyInd@DefKey#1{%

```

```

8803     \begingroup
8804     \let\protect\@unexpandable@protect
8805     \edef\Hy@temp{#1}%
8806     \ltx@onelevel@santize\Hy@temp
8807     \global\let\HyInd@key\Hy@temp
8808     \endgroup
8809   }%
8810   \fi
8811 }%
8812 \fi
8813 \Hy@DisableOption{hyperindex}
8814 \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.

```

8815 \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.

```

8816 \def\hyperpage#1{%
8817   \HyInd@hyperpage#1\nohyperpage{}\@nil
8818 }
8819 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8820   \HyInd@@hyperpage{#1}%
8821   #2%
8822   \def\Hy@temp{#3}%
8823   \ifx\Hy@temp\@empty
8824     \else
8825       \ltx@ReturnAfterFi{%
8826         \HyInd@hyperpage#3\@nil
8827       }%
8828     \fi
8829 }
8830 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8831 \def\@hyperpage#1--#2--#3\{\%
8832   \ifx\#2\%
8833     \@commahyperpage{#1}%
8834     \else
8835       \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8836     \fi
8837 }
8838 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
8839 \def\@commahyperpage#1, #2,#3\{\%
8840   \ifx\#2\%
8841     \HyInd@pagelink{#1}%
8842     \else
8843       \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8844     \fi
8845 }

```

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

```

8846 \def\HyInd@pagelink#1{%
8847   \begingroup
8848   \toks@={}%
8849   \HyInd@removespaces#1 \@nil
8850   \endgroup
8851 }
8852 \def\HyInd@removespaces#1 #2\@nil{%
8853   \toks@=\expandafter{\the\toks@#1}%
8854   \ifx\#2\%
8855     \edef\x{\the\toks@}%
8856     \ifx\x\@empty
8857       \else
8858         \hyperlink{page.\the\toks@}{\the\toks@}%
8859       \fi
8860     \else
8861       \ltx@ReturnAfterFi{%
8862         \HyInd@removespaces#2\@nil
8863       }%
8864     \fi
8865 }

```

## 45 Compatibility with foiltex

```

8866 \@ifclassloaded{foils}{%
8867   \providecommand*\ext@table{lot}%
8868   \providecommand*\ext@figure{lof}%
8869 }{}

```

## 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)).

```

8870 \@ifclassloaded{seminar}{%
8871   \Hy@seminarslidestrue
8872   \providecommand\theHslide{\arabic{slide}}%
8873 }{%
8874   \Hy@seminarslidesfalse
8875 }
8876 \@ifpackageloaded{slidesec}{%
8877   \providecommand\theHslidesection {\arabic{slidesection}}%
8878   \providecommand\theHslidesubsection{%
8879     \theHslidesection.\arabic{slidesubsection}%
8880   }%
8881   \def\slide@heading[#1]#2{%
8882     \H@refstepcounter{slidesection}%
8883     \@addtoreset{slidesubsection}{slidesection}%

```

```

8884 \addtocontents{los}{%
8885   \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8886   {\@SCTR}{slideheading.\theslidesection}%
8887 }%
8888 \def\Hy@tempa{#2}%
8889 \ifx\Hy@tempa\@empty
8890 \else
8891   {%
8892     \edef\@currentlabel{%
8893       \csname p@slidesection\endcsname\theslidesection
8894     }%
8895     \makeslideheading{#2}%
8896   }%
8897 \fi
8898 \gdef\theslideheading{#1}%
8899 \gdef\theslidesubheading{}%
8900 \ifHy@bookmarksnumbered
8901   \def\Hy@slidetitle{\theslidesection\space #1}%
8902 \else
8903   \def\Hy@slidetitle{#1}%
8904 \fi
8905 \ifHy@hypertextnames
8906   \ifHy@naturalnames
8907     \hyper@@anchor{slideheading.\theslidesection}{\relax}%
8908     \Hy@writebookmark
8909       {\theslidesection}%
8910       {\Hy@slidetitle}%
8911       {slideheading.\theslidesection}%
8912       {1}%
8913       {toc}%
8914   \else
8915     \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8916     \Hy@writebookmark
8917       {\theslidesection}%
8918       {\Hy@slidetitle}%
8919       {slideheading.\theHslidesection}%
8920       {1}%
8921       {toc}%
8922   \fi
8923 \else
8924   \Hy@GlobalStepCount\Hy@linkcounter
8925   \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8926   \Hy@writebookmark
8927     {\theslidesection}%
8928     {\Hy@slidetitle}%
8929     {slideheading.\the\Hy@linkcounter}%
8930     {1}%
8931     {toc}%
8932 \fi
8933 }%

```



```

8934 \def\slide@subheading[#1]#2{%
8935   \H@refstepcounter{slidesubsection}%
8936   \addtocontents{los}{%
8937     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8938     {\@SCTR}{\slideheading.\theslidesubsection}%
8939   }%
8940 \def\Hy@tempa{#2}%
8941 \ifx\Hy@tempa\@empty
8942 \else
8943   {%
8944     \edef\@currentlabel{%
8945       \csname p@slidesubsection\endcsname\theslidesubsection
8946     }%
8947     \makeslidesubheading{#2}%
8948   }%
8949 \fi
8950 \gdef\theslidesubheading{#1}%
8951 \ifHy@bookmarksnumbered
8952   \def\Hy@slidetitle{\theslidesubsection\space #1}%
8953 \else
8954   \def\Hy@slidetitle{#1}%
8955 \fi
8956 \ifHy@hypertexnames
8957   \ifHy@naturalnames
8958     \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8959     \Hy@writebookmark
8960       {\theslidesubsection}%
8961       {\Hy@slidetitle}%
8962       {slideheading.\theslidesubsection}%
8963       {2}%
8964       {toc}%
8965   \else
8966     \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8967     \Hy@writebookmark
8968       {\theslidesubsection}%
8969       {\Hy@slidetitle}%
8970       {slideheading.\theHslidesubsection}%
8971       {2}%
8972       {toc}%
8973   \fi
8974 \else
8975   \Hy@GlobalStepCount\Hy@linkcounter
8976   \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8977   \Hy@writebookmark
8978     {\theslidesubsection}%
8979     {\Hy@slidetitle}%
8980     {slideheading.\the\Hy@linkcounter}%
8981     {1}%
8982     {toc}%
8983 \fi

```

```

8984 }%
8985 \providecommand*{\listslidenam}{List of Slides}%
8986 \def\listofslides{%
8987   \section*{%
8988     \listslidenam
8989     \@mkboth{%
8990       \expandafter\MakeUppercase\listslidenam
8991     }{%
8992       \expandafter\MakeUppercase\listslidenam
8993     }%
8994   }%
8995   \def\l@slide##1##2##3##4{%
8996     \slide@undottedcline{%
8997       \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8998     }{}%
8999   }%
9000   \let\l@subslide\l@slide
9001   \@startlos
9002 }%
9003 \def\slide@contents{%
9004   \def\l@slide##1##2##3##4{%
9005     \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
9006   }%
9007   \let\l@subslide\@gobblefour
9008   \@startlos
9009 }%
9010 \def\Slide@contents{%
9011   \def\l@slide##1##2##3##4{%
9012     \ifcase\lslide@flag
9013       \message{##1 ** \the\c@slidesection}%
9014       \ifnum##1>\c@slidesection
9015         \def\lslide@flag{1}%
9016         {%
9017           \large
9018           \slide@ccline{%
9019             \slidenumberline{$\rightarrow$bullet}%
9020             {\hyperlink{##4}{##2}}%
9021           }{##3}%
9022         }%
9023       \else
9024         {%
9025           \large
9026           \slide@ccline{%
9027             \slidenumberline{$\surd;$bullet}%
9028             {\hyperlink{##4}{##2}}%
9029           }{##3}%
9030         }%
9031       \fi
9032     \or
9033     \def\lslide@flag{2}%

```

```

9034      {%
9035        \large
9036        \slide@ccline{%
9037          \slidenumberline{$\bullet$}%
9038          {\hyperlink{##4}{##2}}%
9039        }{##3}%
9040      }%
9041    \or
9042    {%
9043      \large
9044      \slide@ccline{%
9045        \slidenumberline{$\bullet$}%
9046        {\hyperlink{##4}{##2}}%
9047      }{##3}%
9048    }%
9049    \fi
9050  }%
9051  \def\l@subslide##1##2##3##4{%
9052    \ifnum\lslide@flag=1 %
9053      \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
9054    \fi
9055  }%
9056  \def\lslide@flag{0}%
9057  \@startlos
9058  }%
9059  }{}

```

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.)

```

9060 \iffHy@texht
9061   \expandafter\endinput
9062 \fi
9063 \let\real@setref\@setref
9064 \def\@setref#1#2#3{% csname, extract group, refname
9065   \ifx#1\relax
9066     \protect\G@refundefinedtrue
9067     \nfss@text{\reset@font\bfseries ??}%
9068     \@latex@warning{%
9069       Reference ‘#3’ on page \thepage \space undefined%
9070     }%
9071   \else
9072     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
9073   \fi
9074 }

```

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

```

9075 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
9076   \begingroup

```

```

9077 \toks0={\hyper@@link{#5}{#4}}%
9078 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
9079 \edef\x{\endgroup
9080   \the\toks0 {\the\toks1 }%
9081 }%
9082 \x
9083 }
9084 \def\@pagesetref#1#2#3{% csname, extract macro, ref
9085   \ifx#1\relax
9086     \protect\G@refundefinedtrue
9087     \nfss@text{\reset@font\bfseries ??}%
9088     \@latex@warning{%
9089       Reference ‘#3’ on page \thepage \space undefined%
9090     }%
9091   \else
9092     \protect\hyper@@link
9093     {\expandafter\@fifthoffive#1}%
9094     {page.\expandafter\@secondoffive#1}%
9095     {\expandafter\@secondoffive#1}%
9096   \fi
9097 }
9098 </package>
9099 <*check>
9100 \checklatex
9101 \checkcommand\def\@setref#1#2#3{%
9102   \ifx#1\relax
9103     \protect\G@refundefinedtrue
9104     \nfss@text{\reset@font\bfseries ??}%
9105     \@latex@warning{%
9106       Reference ‘#3’ on page \thepage\space undefined%
9107     }%
9108   \else
9109     \expandafter#2#1\null
9110   \fi
9111 }
9112 </check>
9113 <*package>

```

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

```

9114 \def\HyRef@StarSetRef#1{%
9115   \begingroup
9116   \Hy@safe@activetrue
9117   \edef\x{#1}%
9118   \@onelevel@sanitize\x
9119   \edef\x{\endgroup
9120     \noexpand\HyRef@@StarSetRef
9121     \expandafter\noexpand\csname r@\x\endcsname{\x}%
9122   }%
9123   \x

```

```

9124 }
9125 \def\HyRef@@StarSetRef#1#2#3{%
9126   \ifx#1\@undefined
9127     \let#1\relax
9128   \fi
9129   \real@setref#1#3{#2}%
9130 }
9131 \def\@refstar#1{%
9132   \HyRef@StarSetRef{#1}\@firstoffive
9133 }
9134 \def\@pagerefstar#1{%
9135   \HyRef@StarSetRef{#1}\@secondoffive
9136 }
9137 \def\@namerefstar#1{%
9138   \HyRef@StarSetRef{#1}\@thirdoffive
9139 }
9140 \Hy@AtBeginDocument{%
9141   \ifpackageloaded{varioref}{%
9142     \def\@Refstar#1{%
9143       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
9144     }%
9145     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
9146       \MakeUppercase#1%
9147     }%
9148     \DeclareRobustCommand*\Ref*{%
9149       \@ifstar\@Refstar\HyRef@Ref
9150     }%
9151     \def\HyRef@Ref#1{%
9152       \hyperref[{#1}]{\Ref*{#1}}%
9153     }%
9154     \def\Vr@f#1{%
9155       \leavevmode\unskip\vref@space
9156       \hyperref[{#1}]{%
9157         \Ref*{#1}%
9158         \let\vref@space\nobreakspace
9159         \@vpageref\unskip}{#1}%
9160       }%
9161     }%
9162     \def\vr@f#1{%
9163       \leavevmode\unskip\vref@space
9164       \begingroup
9165         \let\T@pageref\@pagerefstar
9166         \hyperref[{#1}]{%
9167           \ref*{#1}%
9168           \vpageref\unskip}{#1}%
9169         }%
9170       \endgroup
9171     }%
9172   }{}%
9173 }

```

```

9174 \DeclareRobustCommand*{\autopageref}{%
9175   \@ifstar{%
9176     \HyRef@autopagerefname\pageref*%
9177   }\HyRef@autopageref
9178 }
9179 \def\HyRef@autopageref#1{%
9180   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
9181 }
9182 \def\HyRef@autopagerefname{%
9183   \ltx@ifundefined{pageautorefname}{%
9184     \ltx@ifundefined{pagename}{%
9185       \Hy@Warning{No autoref name for 'page'}%
9186     }{%
9187       \pagename\nobreakspace
9188     }%
9189   }{%
9190     \pageautorefname\nobreakspace
9191   }%
9192 }

```

\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.

```

9193 \DeclareRobustCommand*{\autoref}{%
9194   \leavevmode
9195   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
9196 }
9197 \def\HyRef@autoref#1#2{%
9198   \begingroup
9199   \Hy@safe@activetrue
9200   \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
9201   \endgroup
9202 }
9203 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
9204   \HyRef@ShowKeysRef{#2}%
9205   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
9206     \edef\HyRef@thisref{%
9207       \expandafter\@fourthoffive#1\@empty\@empty\@empty
9208     }%
9209     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
9210     \Hy@safe@activesfalse
9211     #3{%
9212       \expandafter\@fifthoffive#1\@empty\@empty\@empty
9213     }{%
9214       \expandafter\@fourthoffive#1\@empty\@empty\@empty
9215     }{%
9216       \HyRef@currentHtag
9217       \expandafter\@firstoffive#1\@empty\@empty\@empty
9218       \null
9219     }%
9220   \else

```

```

9221 \protect\G@refundefinedtrue
9222 \nfss@text{\reset@font\bfseries ??}%
9223 \@latex@warning{%
9224   Reference ‘#2’ on page \thepage\space undefined%
9225 }%
9226 \fi
9227 }
9228 \def\HyRef@testreftype#1.#2\{\%
9229 \ltx@ifundefined{#1autorefname}\%
9230 \ltx@ifundefined{#1name}\%
9231 \HyRef@StripStar#1\*\@nil{#1}%
9232 \ltx@ifundefined{\HyRef@name autorefname}\%
9233 \ltx@ifundefined{\HyRef@name name}\%
9234 \def\HyRef@currentHtag{%
9235   \Hy@Warning{No autoref name for ‘#1’}%
9236 }%
9237 \edef\HyRef@currentHtag{%
9238   \expandafter\noexpand\csname\HyRef@name name\endcsname
9239   \noexpand~%
9240 }%
9241 }%
9242 }%
9243 \edef\HyRef@currentHtag{%
9244   \expandafter\noexpand
9245   \csname\HyRef@name autorefname\endcsname
9246   \noexpand~%
9247 }%
9248 }%
9249 }%
9250 \edef\HyRef@currentHtag{%
9251   \expandafter\noexpand\csname#1name\endcsname
9252   \noexpand~%
9253 }%
9254 }%
9255 }%
9256 \edef\HyRef@currentHtag{%
9257   \expandafter\noexpand\csname#1autorefname\endcsname
9258   \noexpand~%
9259 }%
9260 }%
9261 }
9262 \def\HyRef@StripStar#1*\#2\@nil#3{%
9263 \def\HyRef@name{#2}%
9264 \ifx\HyRef@name\HyRef@CaseStar
9265 \def\HyRef@name{#1}%
9266 \else
9267 \def\HyRef@name{#3}%
9268 \fi
9269 }
9270 \def\HyRef@CaseStar{*\\}

```

```

9271 \def\HyRef@currentHtag{}
      Support for package showkeys.

```

\HyRef@ShowKeysRef

```

9272 \let\HyRef@ShowKeysRef\@gobble
9273 \def\HyRef@ShowKeysInit{%
9274   \begingroup\expandafter\expandafter\expandafter\endgroup
9275   \expandafter\ifx\csname SK@@label\endcsname\relax
9276   \else
9277     \ifx\SK@ref\@empty
9278     \else
9279       \def\HyRef@ShowKeysRef{%
9280         \SK@\SK@@ref
9281       }%
9282     \fi
9283   \fi
9284 }
9285 \@ifpackageloaded{showkeys}{%
9286   \HyRef@ShowKeysInit
9287 }{%
9288   \Hy@AtBeginDocument{%
9289     \@ifpackageloaded{showkeys}{%
9290       \HyRef@ShowKeysInit
9291     }{%
9292     }%
9293 }

```

Defaults for the names that \autoref uses.

```

9294 \providecommand*\AMSautorefname{\equationautorefname}
9295 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
9296 \providecommand*\Itemautorefname{\itemautorefname}
9297 \providecommand*\itemautorefname{item}
9298 \providecommand*\equationautorefname{Equation}
9299 \providecommand*\footnoteautorefname{footnote}
9300 \providecommand*\itemautorefname{item}
9301 \providecommand*\figureautorefname{Figure}
9302 \providecommand*\tableautorefname{Table}
9303 \providecommand*\partautorefname{Part}
9304 \providecommand*\appendixautorefname{Appendix}
9305 \providecommand*\chapterautorefname{chapter}
9306 \providecommand*\sectionautorefname{section}
9307 \providecommand*\subsectionautorefname{subsection}
9308 \providecommand*\subsubsectionautorefname{subsubsection}
9309 \providecommand*\paragraphautorefname{paragraph}
9310 \providecommand*\subparagraphautorefname{subparagraph}
9311 \providecommand*\FancyVerbLineautorefname{line}
9312 \providecommand*\theoremautorefname{Theorem}
9313 \providecommand*\pageautorefname{page}
9314 </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`.

```
9315 <*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
9316 \begingroup\expandafter\expandafter\expandafter\endgroup
9317 \expandafter\ifx\curname pdf@escapestring\endcurname\relax
9318 \begingroup
9319 \catcode'\|=0 %
9320 \@makeother\| %
9321 |@firstofone{|endgroup
9322 |def|Hy@pstringdef#1#2{%
9323 |begingroup
9324 |edef~{|string~}%
9325 |xdef|Hy@gtemp{#2}%
9326 |endgroup
9327 |let#1|Hy@gtemp
9328 |@onelevel@sanitize#1%
9329 |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
9330 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1|@nil}%
9331 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1|@nil}%
9332 }%
9333 |def|Hy@ExchangeBackslash#1#2|@nil{%
9334 #1%
9335 |ifx|\#2|\% %
9336 |else
9337 \\\%
9338 |ltx@ReturnAfterFi{%
9339 |Hy@ExchangeBackslash#2|@nil
9340 }%
9341 |fi
9342 }%
9343 }%
9344 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
9345 #1%
9346 \ifx\\#2\\%
9347 \else
9348 \@backslashchar(%
9349 \ltx@ReturnAfterFi{%
9350 \Hy@ExchangeLeftParenthesis#2\@nil
9351 }%
9352 \fi
```

```

9353 }%
9354 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
9355   #1%
9356   \ifx\\#2\\%
9357   \else
9358     \@backslashchar)%
9359     \ltx@ReturnAfterFi{%
9360       \Hy@ExchangeRightParenthesis#2\@nil
9361     }%
9362   \fi
9363 }%
9364 \else
9365   \def\Hy@pstringdef#1#2{%
9366     \begingroup
9367       \edef~{\string~}%
9368       \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
9369     \endgroup
9370     \let#1\Hy@gtemp
9371   }%
9372 \fi
9373 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 47.2 pdfTeX

```

9374 <*pdfTeX>
9375 \providecommand*{\XR@ext}{pdf}
9376 \Hy@setbreaklinks{true}
9377 \def\HyPat@ObjRef{%
9378   [0-9]*[1-9][0-9]* 0 R%
9379 }

```

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`

```

9380 \let\Hy@pdfminorversion\relax
9381 \begingroup\expandafter\expandafter\expandafter\endgroup
9382 \expandafter\ifx\cscname pdfminorversion\endcsname\relax
9383   \begingroup\expandafter\expandafter\expandafter\endgroup
9384   \expandafter\ifx\cscname pdfoptionpdfminorversion\endcsname\relax
9385   \else
9386     \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
9387   \fi
9388 \else
9389   \def\Hy@pdfminorversion{\pdfminorversion}%
9390 \fi

```

```

9391 \@ifundefined{Hy@pdfminorversion}{%
9392   \PackageInfo{hyperref}{%
9393     PDF version is not set, because pdfTeX is too old (<1.10a)%
9394   }%
9395 }{%
9396   \ifHy@ocgcolorlinks
9397     \ifnum\Hy@pdfminorversion<5 %
9398       \kvsetkeys{Hyp}{pdfversion=1.5}%
9399     \fi
9400   \fi
9401   \ifHy@setpdfversion
9402     \ifnum\Hy@pdfversion<5 %
9403       \ltx@ifundefined{pdfobjcompresslevel}{%
9404         }{%
9405           \ifHy@verbose
9406             \Hy@InfoNoLine{%
9407               PDF object streams are disabled, because they are%
9408               \MessageBreak
9409               not supported in requested PDF version %
9410               1.\Hy@pdfversion
9411             }%
9412           \fi
9413           \pdfobjcompresslevel=\ltx@zero
9414         }%
9415       \fi
9416       \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
9417     \else
9418       \let\Hy@temp\ltx@empty
9419       \def\Hy@temp@A#1#2{%
9420         \ifnum#1>\ltx@zero
9421           \edef\Hy@temp{%
9422             \Hy@temp
9423             \space\space
9424             \the#1\space #2%
9425             \ifnum#1=\ltx@one\else s\fi
9426             \MessageBreak
9427           }%
9428           \fi
9429         }%
9430         \Hy@temp@A\pdfastobj{PDF object}%
9431         \Hy@temp@A\pdfastxform{form XObject}%
9432         \Hy@temp@A\pdfastximage{image XObject}%
9433         \Hy@temp@A\pdfastannot{annotation}%
9434         \ltx@ifundefined{pdfastlink}{%
9435           }{%
9436             \Hy@temp@A\pdfastlink{link}%
9437           }%
9438         \ifx\Hy@temp\ltx@empty
9439           \Hy@pdfminorversion=\Hy@pdfversion\relax
9440         \else

```

```

9441 \let\Hy@temp@A\ltx@empty
9442 \ifnum\Hy@pdfversion=4 %
9443 \IfFileExists{pdf14.sty}{%
9444 \def\Hy@temp@A{%
9445 \MessageBreak
9446 Or \string\RequirePackage{pdf14} can be used%
9447 \MessageBreak
9448 before \string\documentclass\space as shortcut%
9449 }%
9450 }{}%
9451 \fi
9452 \Hy@WarningNoLine{%
9453 The PDF version number could not be set,\MessageBreak
9454 because some PDF objects are already written:%
9455 \MessageBreak
9456 \Hy@temp
9457 The version should be set as early as possible:%
9458 \MessageBreak
9459 \space\space
9460 \expandafter\string\Hy@pdfminorversion=\Hy@pdfversion
9461 \string\relax
9462 \ifnum\Hy@pdfversion<5 %
9463 \ltx@ifundefined{pdfobjcompresslevel}{%
9464 }{%
9465 \MessageBreak
9466 \space\space
9467 \string\pdfobjcompresslevel=0\string\relax
9468 }%
9469 \fi
9470 \Hy@temp@A
9471 }%
9472 \fi
9473 \fi
9474 \PackageInfo{hyperref}{%
9475 \expandafter\string\Hy@pdfminorversion
9476 :=\number\Hy@pdfversion\space
9477 }%
9478 \fi
9479 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
9480 }
9481 \Hy@DisableOption{pdfversion}%
9482 \ifHy@ocgcolorlinks
9483 \pdf@ifdraftmode{}{%
9484 \immediate\pdfobj{%
9485 <<%
9486 /Type/OCG%
9487 /Name(View)%
9488 /Usage<<%
9489 /Print<<%

```

```

9490         /PrintState/OFF%
9491     >>%
9492     /View<<%
9493         /ViewState/ON%
9494     >>%
9495 >>%
9496 >>%
9497 }%
9498 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
9499 \immediate\pdfobj{%
9500 <<%
9501     /Type/OCG%
9502     /Name(Print)%
9503     /Usage<<%
9504         /Print<<%
9505             /PrintState/ON%
9506         >>%
9507         /View<<%
9508             /ViewState/OFF%
9509         >>%
9510     >>%
9511 >>%
9512 }%
9513 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
9514 \immediate\pdfobj{%
9515     [%
9516         \OBJ@OCG@view\space\OBJ@OCG@print
9517     ]%
9518 }%
9519 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
9520 \pdfcatalog{%
9521     /OCProperties<<%
9522         /OCGs \OBJ@OCGs
9523     /D<<%
9524         /OFF[\OBJ@OCG@print]%
9525         /AS[%
9526             <<%
9527                 /Event/View%
9528                 /OCGs \OBJ@OCGs
9529                 /Category[/View]%
9530             >>%
9531             <<%
9532                 /Event/Print%
9533                 /OCGs \OBJ@OCGs
9534                 /Category[/Print]%
9535             >>%
9536             <<%
9537                 /Event/Export%
9538                 /OCGs \OBJ@OCGs
9539                 /Category[/Print]%

```

```

9540         >>%
9541     ]%
9542     >>%
9543     >>%
9544 }%
9545 \begingroup
9546 \edef\x{\endgroup
9547 \pdfpageresources{%
9548 \the\pdfpageresources
9549 /Properties<<%
9550 /OCView \OBJ@OCG@view
9551 /OCPrint \OBJ@OCG@print
9552 >>%
9553 }%
9554 }%
9555 \x
9556 }%
9557 \Hy@AtBeginDocument{%
9558 \def\Hy@colorlink#1{%
9559 \begingroup
9560 \ifHy@ocgcolorlinks
9561 \def\Hy@ocgcolor{#1}%
9562 \setbox0=\hbox\bgroup\color@begingroup
9563 \else
9564 \HyColor@UseColor#1%
9565 \fi
9566 }%
9567 \def\Hy@endcolorlink{%
9568 \ifHy@ocgcolorlinks
9569 \color@endgroup\egroup
9570 \mbox{%
9571 \pdfliteral page{/OC/OCPrint BDC}%
9572 \rlap{\copy0}%
9573 \pdfliteral page{EMC/OC/OCView BDC}%
9574 \begingroup
9575 \expandafter\HyColor@UseColor\Hy@ocgcolor
9576 \box0 %
9577 \endgroup
9578 \pdfliteral page{EMC}%
9579 }%
9580 \fi
9581 \endgroup
9582 }%
9583 }%
9584 \else
9585 \Hy@DisableOption{ocgcolorlinks}%
9586 \fi

```

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

```

9587 \def\setpdfinkmargin#1{%

```

```

9588 \begingroup
9589 \setlength{\dimen@}{#1}%
9590 \expandafter\endgroup
9591 \expandafter\pdfinkmargin\the\dimen@\relax
9592 }
9593 \ifx\pdfstartlink\@undefined% less than version 14
9594 \let\pdfstartlink\pdfannotlink
9595 \let\pdfinkmargin\@tempdima
9596 \let\pdfxform\pdfform
9597 \let\pdfastxform\pdfastform
9598 \let\pdfrefxform\pdfrefform
9599 \else
9600 \pdfinkmargin1pt %
9601 \fi

```

First set up the default linking

```
9602 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

9603 \Hy@WrapperDef\new@pdfink#1{%
9604 \ifhmode
9605 \@savs\spacefactor
9606 \fi
9607 \Hy@SaveLastskip
9608 \Hy@VerboseAnchor{#1}%
9609 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9610 \Hy@DestName\Hy@pstringDest\@pdfview
9611 \Hy@RestoreLastskip
9612 \ifhmode
9613 \spacefactor\@savs
9614 \fi
9615 }
9616 \let\pdf@endanchor\@empty

```

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

```

9617 \def\Hy@DestName#1#2{%
9618 \pdfdest name{#1}#2\relax
9619 }

```

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.

```

9620 \providecommand*\@pdfborder{0 0 1}
9621 \providecommand*\@pdfborderstyle{}
9622 \def\Hy@undefinedname{UNDEFINED}
9623 \def\find@pdfink#1#2{%
9624 \leavevmode
9625 \protected@edef\Hy@testname{#2}%

```

```

9626 \ifx\Hy@testname\@empty
9627   \Hy@Warning{%
9628     Empty destination name,\MessageBreak
9629     using '\Hy@undefinedname'%
9630   }%
9631   \let\Hy@testname\Hy@undefinedname
9632 \else
9633   \Hy@pstringdef\Hy@testname{%
9634     \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
9635   }%
9636 \fi
9637 \Hy@StartlinkName{%
9638   \ifHy@pdfa /F 4\fi
9639   \Hy@setpdfborder
9640   \ifx\@pdfhighlight\@empty
9641   \else
9642     /H\@pdfhighlight
9643   \fi
9644   \ifx\CurrentBorderColor\relax
9645   \else
9646     /C[\CurrentBorderColor]%
9647   \fi
9648 } \Hy@testname
9649 \expandafter\Hy@colorlink\csname @#1color\endcsname
9650 }
9651 \def\Hy@StartlinkName#1#2{%
9652   \pdfstartlink attr{#1}goto name{#2}\relax
9653 }
9654 \def\close@pdflink{%
9655   \Hy@endcolorlink
9656   \Hy@VerboseLinkStop
9657   \pdfendlink
9658 }
9659 \def\hyper@anchor#1{%
9660   \new@pdflink{#1}\anchor@spot\pdf@endanchor
9661 }
9662 \def\hyper@anchorstart#1{%
9663   \new@pdflink{#1}%
9664   \Hy@activeanchortrue
9665 }
9666 \def\hyper@anchorend{%
9667   \pdf@endanchor
9668   \Hy@activeanchorfalse
9669 }
9670 \def\hyper@linkstart#1#2{%
9671   \Hy@VerboseLinkStart{#1}{#2}%
9672   \ltx@ifundefined{@#1bordercolor}{%
9673     \let\CurrentBorderColor\relax
9674   }{%
9675     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%

```



```

9676 }%
9677 \find@pdfink{#1}{#2}%
9678 }
9679 \def\hyper@linkend{\close@pdfink}
9680 \def\hyper@link#1#2#3{%
9681 \Hy@VerboseLinkStart{#1}{#2}%
9682 \ltx@ifundefined{@#1bordercolor}{%
9683 \let\CurrentBorderColor\relax
9684 }{%
9685 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9686 }%
9687 \find@pdfink{#1}{#2}#3\Hy@xspace@end
9688 \close@pdfink
9689 }
9690 \let\CurrentBorderColor\@linkbordercolor
9691 \def\hyper@linkurl#1#2{%
9692 \begingroup
9693 \Hy@pstringdef\Hy@pstringURI{#2}%
9694 \hyper@chars
9695 \leavevmode
9696 \pdfstartlink
9697 attr{%
9698 \Hy@setpdfborder
9699 \ifx\@pdfhighlight\@empty
9700 \else
9701 /H\@pdfhighlight
9702 \fi
9703 \ifx\@urlbordercolor\relax
9704 \else
9705 /C[\@urlbordercolor]%
9706 \fi
9707 }%
9708 user{%
9709 /Subtype/Link%
9710 \ifHy@pdfa /F 4\fi
9711 /A<<%
9712 /Type/Action%
9713 /S/URI%
9714 /URI(\Hy@pstringURI)%
9715 \ifHy@href@ismap
9716 /IsMap true%
9717 \fi
9718 \Hy@href@nextactionraw
9719 >>%
9720 }%
9721 \relax
9722 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9723 \close@pdfink
9724 \endgroup
9725 }

```

```

9726 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9727   \begingroup
9728   \def\Hy@pstringF{#2}%
9729   \Hy@CleanupFile\Hy@pstringF
9730   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9731   \Hy@pstringdef\Hy@pstringD{#3}%
9732   \Hy@MakeRemoteAction
9733   \leavevmode
9734   \pdfstartlink
9735   attr{%
9736     \Hy@setpdfborder
9737     \ifx\@pdfhighlight\@empty
9738     \else
9739       /H\@pdfhighlight
9740     \fi
9741     \ifx\@filebordercolor\relax
9742     \else
9743       /C[\@filebordercolor]%
9744     \fi
9745   }%
9746   user {%
9747     /Subtype/Link%
9748     \ifHy@pdfa /F 4\fi
9749     /A<<%
9750     /F(\Hy@pstringF)%
9751     /S/GoToR%
9752     \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}

```

```

9753   \ifx\#3\%
9754     /D[\Hy@href@page\@pdfremotestartview]%
9755   \else
9756     /D(\Hy@pstringD)%
9757   \fi
9758   \Hy@href@nextactionraw
9759   >>%
9760 }%
9761 \relax
9762 \Hy@colorlink\@filecolor#1\Hy@xspace@end

```

```

9763 \close@pdfink
9764 \endgroup
9765 }
9766 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text linkname
9767 \begingroup
9768 \Hy@pstringdef\Hy@pstringF{#1}%
9769 \Hy@pstringdef\Hy@pstringP{#3}%
9770 \leavevmode
9771 \pdfstartlink
9772 attr{%
9773 \Hy@setpdfborder
9774 \ifx\@pdfhighlight\@empty
9775 \else
9776 /H\@pdfhighlight
9777 \fi
9778 \ifx\@runbordercolor\relax
9779 \else
9780 /C[\@runbordercolor]%
9781 \fi
9782 }%
9783 user {%
9784 /Subtype/Link%
9785 \ifHy@pdfa /F 4\fi
9786 /A<<%
9787 /F(\Hy@pstringF)%
9788 /S/Launch%
9789 \Hy@SetNewWindow
9790 \ifx\\#3\\%
9791 \else
9792 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9793 \fi
9794 \Hy@href@nextactionraw
9795 >>%
9796 }%
9797 \relax
9798 \Hy@colorlink\@runcolor#2\Hy@xspace@end
9799 \close@pdfink
9800 \endgroup
9801 }

```

\@pdfproducer

```

9802 \ifx\@pdfproducer\relax
9803 \begingroup\expandafter\expandafter\expandafter\endgroup
9804 \expandafter\ifx\csname luatexversion\endcsname\relax
9805 \def\@pdfproducer{pdfTeX}%
9806 \ifx\TeXversion\@undefined
9807 \else
9808 \ifx\TeXversion\relax
9809 \else
9810 \ifnum\TeXversion>0 %

```

```

9811     \def\@pdfproducer{pdfTeX}%
9812     \fi
9813     \fi
9814     \fi
9815     \ifx\pdfTeXversion\@undefined
9816     \else
9817     \ifnum\pdfTeXversion<100 %
9818     \edef\@pdfproducer{%
9819     \@pdfproducer
9820     \the\pdfTeXversion.\pdfTeXrevision
9821     }%
9822     \else
9823     \ifnum\pdfTeXversion<130 %
9824     \edef\@pdfproducer{%
9825     \@pdfproducer-%
9826     \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9827     \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
9828     \pdfTeXrevision
9829     }%
9830     \else
9831     \ifnum\pdfTeXversion<140 %
9832     \else
9833     \def\@pdfproducer{pdfTeX}%
9834     \fi
9835     \edef\@pdfproducer{%
9836     \@pdfproducer-%
9837     \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9838     \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9839     \pdfTeXrevision
9840     }%
9841     \fi
9842     \fi
9843     \fi
9844     \else
9845     \begingroup
9846     \count@=\luaTeXversion
9847     \divide\count@ by 100 %
9848     \edef\x{\the\count@}%
9849     \count@=-\x\relax
9850     \multiply\count@ by 100 %
9851     \advance\count@ by \luaTeXversion
9852     \edef\x{\endgroup
9853     \def\noexpand\@pdfproducer{%
9854     LuaTeX-\x.\the\count@.\luaTeXrevision
9855     }%
9856     }%
9857     \x
9858     \fi
9859     \fi

```

\PDF@SetupDox

```
9860 \def\PDF@SetupDoc{%
9861   \ifx\@pdfpagescrop\@empty
9862   \else
9863     \edef\process@me{%
9864       \pdfpagesattr={%
9865         /CropBox[\@pdfpagescrop]%
9866         \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
9867       \else
9868         ^^J\the\pdfpagesattr
9869       \fi
9870     }%
9871   }%
9872   \process@me
9873 \fi
9874 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9875 \pdfcatalog{%
9876   /PageMode/\@pdfpagemode
9877   \ifx\@baseurl\@empty
9878   \else
9879     /URI<</Base(\Hy@pstringB)>>%
9880   \fi
9881 }%
9882 \ifx\@pdfstartpage\@empty
9883 \else
9884   \ifx\@pdfstartview\@empty
9885   \else
9886     openaction goto page\@pdfstartpage{\@pdfstartview}%
9887   \fi
9888 \fi
9889 \edef\Hy@temp{%
9890   \ifHy@pdftoolbar\else /HideToolbar true\fi
9891   \ifHy@pdfmenubar\else /HideMenubar true\fi
9892   \ifHy@pdfwindowui\else /HideWindowUI true\fi
9893   \ifHy@pdffitwindow /FitWindow true\fi
9894   \ifHy@pdfcenterwindow /CenterWindow true\fi
9895   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9896   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9897   \Hy@UseNameKey{Direction}\@pdfdirection
9898   \Hy@UseNameKey{ViewArea}\@pdfviewarea
9899   \Hy@UseNameKey{ViewClip}\@pdfviewclip
9900   \Hy@UseNameKey{PrintArea}\@pdfprintarea
9901   \Hy@UseNameKey{PrintClip}\@pdfprintclip
9902   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9903   \Hy@UseNameKey{Duplex}\@pdfduplex
9904   \ifx\@pdfpicktraybypdfsize\@empty
9905   \else
9906     /PickTrayByPDFSize \@pdfpicktraybypdfsize
9907   \fi
```

```

9908 \ifx\@pdfprintpagerange\@empty
9909 \else
9910 /PrintPageRange[\@pdfprintpagerange]%
9911 \fi
9912 \ifx\@pdfnumcopies\@empty
9913 \else
9914 /NumCopies \@pdfnumcopies
9915 \fi
9916 }%
9917 \pdfcatalog{%
9918 \ifx\Hy@temp\@empty
9919 \else
9920 /ViewerPreferences<<\Hy@temp>>%
9921 \fi
9922 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9923 \ifx\@pdflang\relax
9924 \else
9925 /Lang(\@pdflang)%
9926 \fi
9927 }%
9928 }

```

\PDF@FinishDoc

```

9929 \def\PDF@FinishDoc{%
9930 \pdf@ifdraftmode{ }{%
9931 \Hy@UseMaketitleInfos
9932 \HyInfo@GenerateAddons
9933 \pdfinfo{%
9934 /Author(\@pdfauthor)%
9935 /Title(\@pdftitle)%
9936 /Subject(\@pdfsubject)%
9937 /Creator(\@pdfcreator)%
9938 \ifx\@pdfcreationdate\@empty
9939 \else
9940 /CreationDate(\@pdfcreationdate)%
9941 \fi
9942 \ifx\@pdfmoddate\@empty
9943 \else
9944 /ModDate(\@pdfmoddate)%
9945 \fi
9946 \ifx\@pdfproducer\relax
9947 \else
9948 /Producer(\@pdfproducer)%
9949 \fi
9950 /Keywords(\@pdfkeywords)%
9951 \ifx\@pdftrapped\@empty
9952 \else
9953 /Trapped/\@pdftrapped
9954 \fi
9955 \HyInfo@Addons

```

```

9956 }%
9957 }%
9958 \Hy@DisableOption{pdfauthor}%
9959 \Hy@DisableOption{pdftitle}%
9960 \Hy@DisableOption{pdfsubject}%
9961 \Hy@DisableOption{pdfcreator}%
9962 \Hy@DisableOption{pdfcreationdate}%
9963 \Hy@DisableOption{pdfmoddate}%
9964 \Hy@DisableOption{pdfproducer}%
9965 \Hy@DisableOption{pdfkeywords}%
9966 \Hy@DisableOption{pdftrapped}%
9967 \Hy@DisableOption{pdfinfo}%
9968 }

```

`\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`.

```

9969 \def\hyper@pagetransition{%
9970   \ifx\@pdfpagetransition\relax
9971   \else
9972     \expandafter\Hy@RemoveTransPageAttr
9973     \the\pdfpageattr^^J/Trans{}}>>\END
9974   \ifx\@pdfpagetransition\@empty
9975   \else
9976     \edef\@processme{%
9977       \global\pdfpageattr{%
9978         \the\pdfpageattr
9979         ^^J/Trans << /S /\@pdfpagetransition\space >>%
9980       }%
9981     }%
9982     \@processme
9983   \fi
9984 \fi
9985 }

```

`\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.

```

9986 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9987   \ifx\\#2\\%
9988     \global\pdfpageattr{#1}%
9989   \else
9990     \Hy@RemoveTransPageAttr#1#4\END
9991   \fi
9992 }

```

`\hyper@pageduration` `\@pdfpageduration` is initialized with `\relax`. So it indicates, if option `pdfpageduration` is used. First previous `/Dur` entries are removed. If a new `/Dur` key

exists, it is appended to `\pdfpageattr`.

```

9993 \def\hyper@pageduration{%
9994   \ifx\@pdfpageduration\relax
9995   \else
9996     \expandafter
9997     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9998   \ifx\@pdfpageduration\@empty
9999   \else
10000     \edef\@processme{%
10001       \global\pdfpageattr{%
10002         \the\pdfpageattr
10003         ^^J/Dur \@pdfpageduration\space
10004       }%
10005     }%
10006     \@processme
10007   \fi
10008 \fi
10009 }

```

`\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.

```

10010 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
10011   \ifx\#2\%
10012     \global\pdfpageattr{#1}%
10013   \else
10014     \Hy@RemoveDurPageAttr#1#4\END
10015   \fi
10016 }

```

`\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).

```

10017 \def\hyper@pagehidden{%
10018   \ifHy@useHidKey
10019   \expandafter
10020   \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
10021   \ifHy@pdfpagehidden
10022     \edef\@processme{%
10023       \global\pdfpageattr{%
10024         \the\pdfpageattr
10025         ^^J/Hid true % SPACE
10026       }%
10027     }%
10028     \@processme
10029   \fi
10030 \fi
10031 }

```



`\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.

```

10032 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
10033   \ifx\#2\%
10034     \global\pdfpageattr{#1}%
10035   \else
10036     \Hy@RemoveHidPageAttr#1#4\END
10037   \fi
10038 }

10039 \pdf@ifdraftmode{}{%
10040   \g@addto@macro\Hy@EveryPageHook{%
10041     \hyper@pagetransition
10042     \hyper@pageduration
10043     \hyper@pagehidden
10044   }%
10045 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

10046 </pdfTeX>
10047 <*pdfTeX | xetex>
10048 \Hy@AtBeginDocument{%
10049   \ifHy@setpagesize
10050     \expandafter\@firstofone
10051   \else
10052     \expandafter\@gobble
10053   \fi
10054 }%
10055 \ifclassloaded{seminar}{%
10056 <*pdfTeX>
10057   \setlength{\pdfhorigin}{1truein}%
10058   \setlength{\pdfvorigin}{1truein}%
10059 </pdfTeX>
10060   \ifportrait
10061     \ifdim\paperwidth=\z@
10062     \else
10063       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
10064     \fi
10065     \ifdim\paperheight=\z@
10066     \else
10067       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
10068     \fi
10069   \else
10070     \ifdim\paperheight=\z@
10071     \else
10072       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
10073     \fi

```

```

10074 \ifdim\paperwidth=\z@
10075 \else
10076 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
10077 \fi
10078 \fi
10079 }{%
10080 \ltx@ifundefined{stockwidth}{%
10081 \ifdim\paperwidth>\z@
10082 \setlength{\pdfpagewidth}{\paperwidth}%
10083 \fi
10084 \ifdim\paperheight>\z@
10085 \setlength{\pdfpageheight}{\paperheight}%
10086 \fi
10087 }{%
10088 \ifdim\stockwidth>\z@
10089 \setlength{\pdfpagewidth}{\stockwidth}%
10090 \fi
10091 \ifdim\stockheight>\z@
10092 \setlength{\pdfpageheight}{\stockheight}%
10093 \fi
10094 }%
10095 }%
10096 }%
10097 \Hy@DisableOption{setpagesize}%
10098 }
10099 </pdftex | xetex>
10100 <*pdftex>
10101 \def\Acrobatmenu#1#2{%
10102 \Hy@Acrobatmenu{#1}{#2}{%
10103 \leavevmode
10104 \EdefEscapeName\Hy@temp@menu{#1}%
10105 \pdfstartlink
10106 attr{%
10107 \Hy@setpdfborder
10108 \ifx\@pdfhighlight\@empty
10109 \else
10110 /H\@pdfhighlight
10111 \fi
10112 \ifx\@menubordercolor\relax
10113 \else
10114 /C[\@menubordercolor]%
10115 \fi
10116 }%
10117 user{%
10118 /Subtype/Link%
10119 \ifHy@pdfa /F 4\fi
10120 /A<%
10121 /S/Named%
10122 /N/\Hy@temp@menu
10123 \Hy@href@nextactionraw

```

```

10124      >>%
10125    }%
10126    \relax
10127    \Hy@colorlink\@menucolor#2%
10128    \close@pdflink
10129  }%
10130 }

```

### 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.

```

10131 \def\Hy@FixNotFirstPage{%
10132   \gdef\Hy@FixNotFirstPage{%
10133     \setbox\AtBeginShipoutBox=\hbox{%
10134       \copy\AtBeginShipoutBox
10135     }%
10136   }%
10137 }
10138 \ltx@ifpackagelater{atbegshi}{2011/10/05}{%
10139 }{%
10140   \AtBeginShipout{\Hy@FixNotFirstPage}%
10141 }
10142 \</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 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 T<sub>E</sub>X file — the T<sub>E</sub>X 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.

```

10143 <*hypertext>
10144 \providecommand*{\XR@ext}{dvi}
10145 \let\PDF@FinishDoc\ltx@empty
10146 \def\PDF@SetupDoc{%
10147   \ifx\@baseurl\@empty
10148   \else
10149     \special{html:<base href="\@baseurl">}%
10150   \fi
10151 }
10152 \Hy@WrapperDef\hyper@anchor#1{%
10153   \Hy@SaveLastskip
10154   \Hy@VerboseAnchor{#1}%
10155   \begingroup
10156     \let\protect=\string
10157     \hyper@chars
10158     \special{html:<a name=%
10159       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10160   \endgroup
10161   \Hy@activeanchortrue
10162   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10163   \special{html:</a>}%
10164   \Hy@activeanchorfalse
10165   \Hy@RestoreLastskip
10166 }
10167 \Hy@WrapperDef\hyper@anchorstart#1{%
10168   \Hy@SaveLastskip
10169   \Hy@VerboseAnchor{#1}%
10170   \begingroup
10171     \hyper@chars
10172     \special{html:<a name=%

```

```

10173     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10174 \endgroup
10175 \Hy@activeanchortrue
10176 }
10177 \def\hyper@anchorend{%
10178   \special{html:</a>}%
10179   \Hy@activeanchorfalse
10180   \Hy@RestoreLastskip
10181 }
10182 \def\@urltype{url}
10183 \def\hyper@linkstart#1#2{%
10184   \Hy@VerboseLinkStart{#1}{#2}%
10185   \expandafter\Hy@colorlink\csname @#1color\endcsname
10186   \def\Hy@tempa{#1}%
10187   \ifx\Hy@tempa\@urltype
10188     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10189   \else
10190     \begingroup
10191       \hyper@chars
10192       \special{html:<a href=%
10193         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
10194     \endgroup
10195   \fi
10196 }
10197 \def\hyper@linkend{%
10198   \special{html:</a>}%
10199   \Hy@endcolorlink
10200 }
10201 \def\hyper@linkfile#1#2#3{%
10202   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
10203 }
10204 \def\hyper@linkurl#1#2{%

```

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

```

10205 \leavevmode
10206 \ifHy@raiselinks
10207   \Hy@SaveSpaceFactor
10208   \Hy@SaveSavedSpaceFactor
10209   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10210   \Hy@RestoreSavedSpaceFactor
10211   \@linkdim\dp\@tempboxa
10212   \lower\@linkdim\hbox{%
10213     \hyper@chars
10214     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10215   }%
10216   \Hy@colorlink\@urlcolor
10217   \Hy@RestoreSpaceFactor
10218   #1%

```

```

10219 \Hy@SaveSpaceFactor
10220 \@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).

```

10221 \advance\@linkdim by -6.5\p@
10222 \raise\@linkdim\hbox{\special{html:</a>}}}%
10223 \Hy@endcolorlink
10224 \Hy@RestoreSpaceFactor
10225 \else
10226 \begingroup
10227 \hyper@chars
10228 \special{html:<a href=\hyper@quote#2\hyper@quote>}}}%
10229 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
10230 \special{html:</a>}}}%
10231 \Hy@endcolorlink
10232 \endgroup
10233 \fi
10234 }

```

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

```

10235 \def\hyper@link#1#2#3{%
10236 \Hy@VerboseLinkStart{#1}{#2}%
10237 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
10238 }

10239 \def\hyper@image#1#2{%
10240 \begingroup
10241 \hyper@chars
10242 \special{html:<img src=\hyper@quote#1\hyper@quote>}}}%
10243 \endgroup
10244 }
10245 </hypertex>
10246 <*dviwindo>

```

## 47.4 dviwindo

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

This was more or less blindly copied from the `hypertex` cfg. For `dviwindo`,  $\text{\LaTeX}$  must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by `\baselineskip` high is used.

```

10247 \providecommand*{\XR@ext}{dvi}
10248 \providecommand*{\wwwbrowser{c:\string\netscape\string\netscape}
10249 \Hy@WrapperDef\hyper@anchor#1{%
10250   \Hy@SaveLastskip
10251   \Hy@VerboseAnchor{#1}%
10252   \begingroup
10253     \let\protect=\string
10254     \special{mark: #1}%
10255   \endgroup
10256   \Hy@activeanchortrue
10257   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10258   \Hy@activeanchorfalse
10259   \Hy@RestoreLastskip
10260 }
10261 \Hy@WrapperDef\hyper@anchorstart#1{%
10262   \Hy@SaveLastskip
10263   \Hy@VerboseAnchor{#1}%
10264   \special{mark: #1}%
10265   \Hy@activeanchortrue
10266 }
10267 \def\hyper@anchorend{%
10268   \Hy@activeanchorfalse
10269   \Hy@RestoreLastskip
10270 }
10271 \def\hyper@linkstart#1#2{%
10272   \Hy@VerboseLinkStart{#1}{#2}%
10273   \expandafter\Hy@colorlink\csname @#1color\endcsname
10274   \special{button: %
10275     10000000 %
10276     \number\baselineskip\space
10277     #2%
10278   }%
10279 }
10280 \def\hyper@linkend{%
10281   \Hy@endcolorlink
10282 }
10283 \def\hyper@link#1#2#3{%
10284   \Hy@VerboseLinkStart{#1}{#2}%
10285   \leavevmode
10286   \ifHy@raiselinks
10287     \Hy@SaveSpaceFactor
10288     \Hy@SaveSavedSpaceFactor
10289     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
10290     \Hy@RestoreSavedSpaceFactor
10291     \@linkdim\dp\@tempboxa
10292     \lower\@linkdim\hbox{%
10293       \special{button: %
10294         \number\wd\@tempboxa\space
10295         \number\ht\@tempboxa\space
10296         #2%

```

```

10297 }%
10298 \expandafter\Hy@colorlink\csname @#1color\endcsname
10299 \Hy@RestoreSpaceFactor
10300 #3\Hy@xspace@end
10301 \Hy@SaveSpaceFactor
10302 \Hy@endcolorlink
10303 }%
10304 \@linkdim\ht\@tempboxa
10305 \advance\@linkdim by -6.5\p@
10306 \raise\@linkdim\hbox{}%
10307 \Hy@RestoreSpaceFactor
10308 \else
10309 \special{button: %
10310 \number\wd\@tempboxa\space
10311 \number\ht\@tempboxa\space
10312 #2%
10313 }%
10314 \expandafter\Hy@colorlink\csname @#1color\endcsname
10315 #3\Hy@xspace@end
10316 \Hy@endcolorlink
10317 \fi
10318 }
10319 \def\hyper@linkurl#1#2{%
10320 \begingroup
10321 \hyper@chars
10322 \leavevmode
10323 \ifHy@raiselinks
10324 \Hy@SaveSpaceFactor
10325 \Hy@SaveSavedSpaceFactor
10326 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10327 \Hy@RestoreSavedSpaceFactor
10328 \@linkdim\dp\@tempboxa
10329 \lower\@linkdim\hbox{%
10330 \special{button: %
10331 \number\wd\@tempboxa\space
10332 \number\ht\@tempboxa\space
10333 launch: \wwwbrowser\space
10334 #2%
10335 }%
10336 \Hy@colorlink\@urlcolor
10337 \Hy@RestoreSpaceFactor
10338 #1\Hy@xspace@end
10339 \Hy@SaveSpaceFactor
10340 \Hy@endcolorlink
10341 }%
10342 \@linkdim\ht\@tempboxa
10343 \advance\@linkdim by -6.5\p@
10344 \raise\@linkdim\hbox{}%
10345 \Hy@RestoreSpaceFactor
10346 \else

```



```

10347 \special{button: %
10348 \number\wd\@tempboxa\space
10349 \number\ht\@tempboxa\space
10350 launch: \wwwbrowser\space
10351 #2%
10352 }%
10353 \Hy@colorlink\@urlcolor
10354 #1\Hy@xspace@end
10355 \Hy@endcolorlink
10356 \fi
10357 \endgroup
10358 }
10359 \def\hyper@linkfile#1#2#3{%
10360 \begingroup
10361 \hyper@chars
10362 \leavevmode
10363 \ifHy@raiselinks
10364 \Hy@SaveSpaceFactor
10365 \Hy@SaveSavedSpaceFactor
10366 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10367 \Hy@RestoreSavedSpaceFactor
10368 \@linkdim\dp\@tempboxa
10369 \lower\@linkdim\hbox{%
10370 \special{button: %
10371 \number\wd\@tempboxa\space
10372 \number\ht\@tempboxa\space
10373 #3,%
10374 file: #2%
10375 }%
10376 \Hy@colorlink\@filecolor
10377 \Hy@RestoreSpaceFactor
10378 #1\Hy@xspace@end
10379 \Hy@SaveSpaceFactor
10380 \Hy@endcolorlink
10381 }%
10382 \@linkdim\ht\@tempboxa
10383 \advance\@linkdim by -6.5\p@
10384 \raise\@linkdim\hbox{}}%
10385 \Hy@RestoreSpaceFactor
10386 \else
10387 \special{button: %
10388 \number\wd\@tempboxa\space
10389 \number\ht\@tempboxa\space
10390 #3,%
10391 file: #2%
10392 }%
10393 \Hy@colorlink\@filecolor
10394 #1\Hy@xspace@end
10395 \Hy@endcolorlink
10396 \fi

```

```

10397 \endgroup
10398 }
10399 \ifx\@pdfproducer\relax
10400 \def\@pdfproducer{dviwindo + Distiller}%
10401 \fi
10402 \HyInfo@AddonUnsupportedtrue
10403 \def\PDF@FinishDoc{%
10404 \Hy@UseMaketitleInfos
10405 \HyInfo@TrappedUnsupported
10406 \special{PDF: Keywords \@pdfkeywords}%
10407 \special{PDF: Title \@pdftitle}%
10408 \special{PDF: Creator \@pdfcreator}%
10409 \ifx\@pdfcreationdate\@empty
10410 \else
10411 \special{PDF: CreationDate \@pdfcreationdate}%
10412 \fi
10413 \ifx\@pdfmoddate\@empty
10414 \else
10415 \special{PDF: ModDate \@pdfmoddate}%
10416 \fi
10417 \special{PDF: Author \@pdfauthor}%
10418 \ifx\@pdfproducer\relax
10419 \else
10420 \special{PDF: Producer \@pdfproducer}%
10421 \fi
10422 \special{PDF: Subject \@pdfsubject}%
10423 \Hy@DisableOption{pdfauthor}%
10424 \Hy@DisableOption{pdftitle}%
10425 \Hy@DisableOption{pdfsubject}%
10426 \Hy@DisableOption{pdfcreator}%
10427 \Hy@DisableOption{pdfcreationdate}%
10428 \Hy@DisableOption{pdfmoddate}%
10429 \Hy@DisableOption{pdfproducer}%
10430 \Hy@DisableOption{pdfkeywords}%
10431 \Hy@DisableOption{pdftrapped}%
10432 \Hy@DisableOption{pdfinfo}%
10433 }
10434 \def\PDF@SetupDoc{%
10435 \ifx\@baseurl\@empty
10436 \else
10437 \special{PDF: Base \@baseurl}%
10438 \fi
10439 \ifx\@pdfpagescrop\@empty\else
10440 \special{PDF: BBox \@pdfpagescrop}%
10441 \fi
10442 \def\Hy@temp{}%
10443 \ifx\@pdfstartpage\@empty
10444 \else
10445 \ifx\@pdfstartview\@empty
10446 \else

```

```

10447 \edef\Hy@temp{%
10448   ,Page=\@pdfstartpage
10449   ,View=\@pdfstartview
10450 }%
10451 \fi
10452 \fi
10453 \edef\Hy@temp{%
10454   \noexpand\pdfmark{%
10455     pdfmark=/DOCVIEW,%
10456     PageMode=/\@pdfpagemode
10457   }\Hy@temp
10458 }%
10459 }%
10460 \Hy@temp
10461 \ifx\@pdfpagescrop\@empty
10462 \else
10463   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10464 \fi
10465 \edef\Hy@temp{%
10466   \ifHy@pdftoolbar\else /HideToolbar true\fi
10467   \ifHy@pdfmenubar\else /HideMenubar true\fi
10468   \ifHy@pdfwindowui\else /HideWindowUI true\fi
10469   \ifHy@pdffitwindow /FitWindow true\fi
10470   \ifHy@pdfcenterwindow /CenterWindow true\fi
10471   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10472   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10473   \Hy@UseNameKey{Direction}\@pdfdirection
10474   \Hy@UseNameKey{ViewArea}\@pdfviewarea
10475   \Hy@UseNameKey{ViewClip}\@pdfviewclip
10476   \Hy@UseNameKey{PrintArea}\@pdfprintarea
10477   \Hy@UseNameKey{PrintClip}\@pdfprintclip
10478   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10479   \Hy@UseNameKey{Duplex}\@pdfduplex
10480   \ifx\@pdfpicktraybypdfsize\@empty
10481   \else
10482     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10483   \fi
10484   \ifx\@pdfprintpagerange\@empty
10485   \else
10486     /PrintPageRange[\@pdfprintpagerange]%
10487   \fi
10488   \ifx\@pdfnumcopies\@empty
10489   \else
10490     /NumCopies \@pdfnumcopies
10491   \fi
10492 }%
10493 \pdfmark{pdfmark=/PUT,%
10494   Raw={%
10495     \string{Catalog}\string}<<%
10496     \ifx\Hy@temp\@empty

```

```

10497     \else
10498         /ViewerPreferences<<\Hy@temp>>%
10499     \fi
10500     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10501     \ifx\@pdflang\relax
10502     \else
10503         /Lang(\@pdflang)%
10504     \fi
10505     >>%
10506 }%
10507 }%
10508 }
10509 </dviwindo>
10510 <*dvipdfm | xetex>

```

## 47.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

10511 \providecommand*\XR@ext}{pdf}
10512 \Hy@setbreaklinks{true}
10513 \def\HyPat@ObjRef{%
10514   @[\ ]+}%
10515 }
10516 \newsavebox{\pdfm@box}
10517 \def\@pdfm@mark#1{\special{pdf:#1}}
10518 \Hy@WrapperDef\@pdfm@dest#1{%
10519   \Hy@SaveLastskip
10520   \Hy@VerboseAnchor{#1}%
10521   \begingroup
10522     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10523     \def\x{XYZ}%
10524     \ifx\x\@pdfview
10525       \def\x{XYZ @xpos @ypos null}%
10526     \else
10527       \def\x{FitH}%
10528       \ifx\x\@pdfview
10529         \def\x{FitH @ypos}%
10530       \else
10531         \def\x{FitBH}%
10532         \ifx\x\@pdfview
10533           \def\x{FitBH @ypos}%
10534         \else
10535           \def\x{FitV}%
10536           \ifx\x\@pdfview
10537             \def\x{FitV @xpos}%
10538           \else
10539             \def\x{FitBV}%
10540             \ifx\x\@pdfview
10541               \def\x{FitBV @xpos}%

```

```

10542         \else
10543             \def\x{Fit}%
10544             \ifx\x\@pdfview
10545                 \let\x\@pdfview
10546             \else
10547                 \def\x{FitB}%
10548                 \ifx\x\@pdfview
10549                     \let\x\@pdfview
10550             \else
10551                 \def\x{FitR}%
10552                 \ifx\x\@pdfview
10553                     \Hy@Warning{'pdfview=FitR' is not supported}%
10554                     \def\x{XYZ @xpos @ypos null}%
10555             \else
10556                 \@onelevel@sanitize\@pdfview
10557                 \Hy@Warning{%
10558                     Unknown value '\@pdfview' for pdfview%
10559                 }%
10560                 \def\x{XYZ @xpos @ypos null}%
10561             \fi
10562         \fi
10563     \fi
10564 \fi
10565 \fi
10566 \fi
10567 \fi
10568 \fi
10569 \@pdfm@mark{dest (\Hy@pstringDest) [thispage /\x]}%
10570 \endgroup
10571 \Hy@RestoreLastskip
10572 }
10573 \providecommand*\@pdfview{XYZ}
10574 \providecommand*\@pdfborder{0 0 1}
10575 \providecommand*\@pdfborderstyle{}
10576 \def\hyper@anchor#1{%
10577     \@pdfm@dest{#1}%
10578 }
10579 \def\hyper@anchorstart#1{%
10580     \Hy@activeanchortrue
10581     \@pdfm@dest{#1}%
10582 }
10583 \def\hyper@anchorend{%
10584     \Hy@activeanchorfalse
10585 }
10586 \newcounter{Hy@AnnotLevel}
10587 \ifHy@ocgcolorlinks
10588     \def\OBJ@OCG@view{@OCG@view}%
10589     \@pdfm@mark{%
10590         obj \OBJ@OCG@view <<%

```

```

10591     /Type/OCG%
10592     /Name(View)%
10593     /Usage<<%
10594         /Print<<%
10595             /PrintState/OFF%
10596         >>%
10597         /View<<%
10598             /ViewState/ON%
10599         >>%
10600     >>%
10601 >>%
10602 }%
10603 \@pdfmark{close \OBJ@OCG@view}%
10604 \def\OBJ@OCG@print{\@OCG@print}%
10605 \@pdfmark{%
10606     obj \OBJ@OCG@print <<%
10607         /Type/OCG%
10608         /Name(Print)%
10609         /Usage<<%
10610             /Print<<%
10611                 /PrintState/ON%
10612             >>%
10613             /View<<%
10614                 /ViewState/OFF%
10615             >>%
10616         >>%
10617     >>%
10618 }%
10619 \@pdfmark{close \OBJ@OCG@print}%
10620 \def\OBJ@OCGs{\@OCGs}%
10621 \@pdfmark{%
10622     obj \OBJ@OCGs [%
10623         \OBJ@OCG@view\space\OBJ@OCG@print
10624     ]%
10625 }%
10626 \@pdfmark{close \OBJ@OCGs}%
10627 \@pdfmark{%
10628     put @catalog <<%
10629         /OCProperties<<%
10630             /OCGs \OBJ@OCGs
10631         /D<<%
10632             /OFF[\OBJ@OCG@print]%
10633             /AS[%
10634                 <<%
10635                     /Event/View%
10636                     /OCGs \OBJ@OCGs
10637                     /Category[/View]%
10638                 >>%
10639                 <<%
10640                     /Event/Print%

```

```

10641         /OCGs \OBJ@OCGs
10642         /Category[/Print]%
10643     >>%
10644     <<%
10645         /Event/Export%
10646         /OCGs \OBJ@OCGs
10647         /Category[/Print]%
10648     >>%
10649     ]%
10650     >>%
10651     >>%
10652     >>%
10653     }%
10654     \AtBeginShipout{%
10655         \setbox\AtBeginShipoutBox=\hbox{%
10656             \copy\AtBeginShipoutBox
10657             \@pdfm@mark{%
10658                 put @resources <<%
10659                     /Properties<<%
10660                     /OCView \OBJ@OCG@view
10661                     /OCPrint \OBJ@OCG@print
10662                 >>%
10663                 >>%
10664             }%
10665         }%
10666     }%
10667     \Hy@AtBeginDocument{%
10668         \def\Hy@colorlink#1{%
10669             \begingroup
10670             \ifHy@ocgcolorlinks
10671                 \def\Hy@ocgcolor{#1}%
10672                 \setbox0=\hbox\bgroup\color@begingroup
10673             \else
10674                 \HyColor@UseColor#1%
10675             \fi
10676         }%
10677         \def\Hy@endcolorlink{%
10678             \ifHy@ocgcolorlinks
10679                 \color@endgroup\egroup
10680             \mbox{%
10681                 \@pdfm@mark{content /OC/OCPrint BDC}%
10682                 \rlap{\copy0}%
10683                 \@pdfm@mark{content EMC/OC/OCView BDC}%
10684             \begingroup
10685                 \expandafter\HyColor@UseColor\Hy@ocgcolor
10686                 \box0 %
10687             \endgroup
10688             \@pdfm@mark{content EMC}%
10689         }%
10690     \fi

```

```

10691 \endgroup
10692 }%
10693 }%
10694 \else
10695 \Hy@DisableOption{ocgcolorlinks}%
10696 \fi

10697 \def\Hy@BeginAnnot#1{%
10698 \stepcounter{Hy@AnnotLevel}%
10699 \ifnum\value{Hy@AnnotLevel}=\@ne
10700 #1%
10701 \fi
10702 }
10703 \def\Hy@endAnnot{%
10704 \ifnum\value{Hy@AnnotLevel}=\@ne
10705 \Hy@endcolorlink
10706 \@pdfm@mark{eann}%
10707 \fi
10708 \addtocounter{Hy@AnnotLevel}\m@ne
10709 }

10710 \def\Hy@undefinedname{UNDEFINED}
10711 \def\hyper@linkstart#1#2{%
10712 \Hy@VerboseLinkStart{#1}{#2}%
10713 \leavevmode
10714 \Hy@BeginAnnot{%
10715 \protected@edef\Hy@testname{#2}%
10716 \ifx\Hy@testname\@empty
10717 \Hy@Warning{%
10718 Empty destination name,\MessageBreak
10719 using '\Hy@undefinedname'%
10720 }%
10721 \let\Hy@testname\Hy@undefinedname
10722 \else
10723 \Hy@pstringdef\Hy@testname{%
10724 \expandafter\HyperDestNameFilter\expandafter{%
10725 \Hy@testname
10726 }%
10727 }%
10728 \fi
10729 \@pdfm@mark{%
10730 bann<<%
10731 /Type/Annot%
10732 /Subtype/Link%
10733 \ifHy@pdfa /F 4\fi
10734 \Hy@setpdfborder
10735 \expandafter\ifx\csmname @#1bordercolor\endcsmname\relax
10736 \else
10737 /C[\csmname @#1bordercolor\endcsmname]%
10738 \fi
10739 /A<<%

```



```

10740      /S/GoTo%
10741      /D(\Hy@testname)%
10742      \Hy@href@nextactionraw
10743      >>%
10744      >>%
10745      }%
10746      \expandafter\Hy@colorlink\csname @#1color\endcsname
10747      }%
10748      }
10749      \def\hyper@linkend{\Hy@EndAnnot}%
10750      \def\hyper@link#1#2#3{%
10751      \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10752      }
10753      \def\hyper@linkfile#1#2#3{%
10754      \leavevmode
10755      \Hy@BeginAnnot{%
10756      \def\Hy@pstringF{#2}%
10757      \Hy@CleanupFile\Hy@pstringF
10758      \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10759      \Hy@pstringdef\Hy@pstringD{#3}%
10760      \Hy@MakeRemoteAction
10761      \@pdfm@mark{%
10762      bann<<%
10763      /Type/Annot%
10764      /Subtype/Link%
10765      \ifHy@pdfa /F 4\fi
10766      \Hy@setpdfborder
10767      \ifx\@filebordercolor\relax
10768      \else
10769      /C[\@filebordercolor]%
10770      \fi
10771      /A<<%
10772      /S/GoToR%
10773      /F(\Hy@pstringF)%
10774      /D%
10775      \ifx\#3\%
10776      [\Hy@href@page\@pdfremotestartview]%
10777      \else
10778      (\Hy@pstringD)%
10779      \fi
10780      \Hy@SetNewWindow
10781      \Hy@href@nextactionraw
10782      >>%
10783      >>%
10784      }%
10785      \Hy@colorlink\@filecolor
10786      }%
10787      #1\Hy@xspace@end
10788      \Hy@EndAnnot
10789      }

```

```

10790 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
10791 \leavevmode
10792 \Hy@BeginAnnot{%
10793 \Hy@pstringdef\Hy@pstringF{#1}%
10794 \Hy@pstringdef\Hy@pstringP{#3}%
10795 \@pdfm@mark{%
10796 bann<<%
10797 /Type/Annot%
10798 /Subtype/Link%
10799 \ifHy@pdfa /F 4\fi
10800 \Hy@setpdfborder
10801 \ifx\@runbordercolor\relax
10802 \else
10803 /C[\@runbordercolor]%
10804 \fi
10805 /A<<%
10806 /F(\Hy@pstringF)%
10807 /S/Launch%
10808 \Hy@SetNewWindow
10809 \ifx\|#3\|
10810 \else
10811 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10812 \fi
10813 \Hy@href@nextactionraw
10814 >>%
10815 >>%
10816 }%
10817 \Hy@colorlink\@runcolor
10818 }%
10819 #2\Hy@xspace@end
10820 \Hy@endAnnot
10821 }
10822 \def\hyper@linkurl#1#2{%
10823 \leavevmode
10824 \Hy@BeginAnnot{%
10825 \Hy@pstringdef\Hy@pstringURI{#2}%
10826 \@pdfm@mark{%
10827 bann<<%
10828 /Type/Annot%
10829 /Subtype/Link%
10830 \ifHy@pdfa /F 4\fi
10831 \Hy@setpdfborder
10832 \ifx\@urlbordercolor\relax
10833 \else
10834 /C[\@urlbordercolor]%
10835 \fi
10836 /A<<%
10837 /S/URI%
10838 /URI(\Hy@pstringURI)%
10839 \ifHy@href@ismap

```

```

10840         /IsMap true%
10841     \fi
10842     \Hy@href@nextactionraw
10843     >>%
10844     >>%
10845     }%
10846     \Hy@colorlink\@urlcolor
10847 }%
10848 #1\Hy@xspace@end
10849 \Hy@endAnnot
10850 }
10851 \def\Acrobatmenu#1#2{%
10852 \Hy@Acrobatmenu{#1}{#2}{%
10853 \Hy@BeginAnnot{%
10854 \EdefEscapeName\Hy@temp@menu{#1}%
10855 \@pdfm@mark{%
10856 bann<<%
10857 /Type/Annot%
10858 /Subtype/Link%
10859 \ifHy@pdfa /F 4\fi
10860 \Hy@setpdfborder
10861 \ifx\@menubordercolor\relax
10862 \else
10863 /C[\@menubordercolor]%
10864 \fi
10865 /A<<%
10866 /S/Named%
10867 /N/\Hy@temp@menu
10868 \Hy@href@nextactionraw
10869 >>%
10870 >>%
10871 }%
10872 \Hy@colorlink\@menucolor
10873 }%
10874 #2\Hy@xspace@end
10875 \Hy@endAnnot
10876 }%
10877 }
10878 \ifx\@pdfproducer\relax
10879 \def\@pdfproducer{dvipdfm}%

```

Detect Xe<sub>T</sub>TeX. However, but xdvipdfmx will overwrite it in the final PDF file.

```

10880 \begingroup\expandafter\expandafter\expandafter\endgroup
10881 \expandafter\ifx\csname XeTeXversion\endcsname\relax
10882 \else
10883 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10884 \fi
10885 \fi
10886 \def\PDF@FinishDoc{%
10887 \Hy@UseMaketitleInfos

```

```

10888 \HyInfo@GenerateAddons
10889 \@pdfm@mark{%
10890   docinfo<<%
10891     /Title(\@pdftitle)%
10892     /Subject(\@pdfsubject)%
10893     /Creator(\@pdfcreator)%
10894     \ifx\@pdfcreationdate\@empty
10895     \else
10896       /CreationDate(\@pdfcreationdate)%
10897     \fi
10898     \ifx\@pdfmoddate\@empty
10899     \else
10900       /ModDate(\@pdfmoddate)%
10901     \fi
10902     /Author(\@pdfauthor)%
10903     \ifx\@pdfproducer\relax
10904     \else
10905       /Producer(\@pdfproducer)%
10906     \fi
10907     /Keywords(\@pdfkeywords)%
10908     \ifx\@pdftrapped\@empty
10909     \else
10910       /Trapped/\@pdftrapped
10911     \fi
10912     \HyInfo@Addons
10913   >>%
10914 }%
10915 \Hy@DisableOption{pdfauthor}%
10916 \Hy@DisableOption{pdftitle}%
10917 \Hy@DisableOption{pdfsubject}%
10918 \Hy@DisableOption{pdfcreator}%
10919 \Hy@DisableOption{pdfcreationdate}%
10920 \Hy@DisableOption{pdfmoddate}%
10921 \Hy@DisableOption{pdfproducer}%
10922 \Hy@DisableOption{pdfkeywords}%
10923 \Hy@DisableOption{pdftrapped}%
10924 \Hy@DisableOption{pdfinfo}%
10925 }

10926 \def\PDF@SetupDoc{%
10927   \edef\Hy@temp{%
10928     \ifHy@pdftoolbar\else /HideToolbar true\fi
10929     \ifHy@pdfmenubar\else /HideMenubar true\fi
10930     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10931     \ifHy@pdfitwindow /FitWindow true\fi
10932     \ifHy@pdfcenterwindow /CenterWindow true\fi
10933     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10934     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10935     \Hy@UseNameKey{Direction}\@pdfdirection
10936     \Hy@UseNameKey{ViewArea}\@pdfviewarea

```

```

10937 \Hy@UseNameKey{ViewClip}\pdfviewclip
10938 \Hy@UseNameKey{PrintArea}\pdfprintarea
10939 \Hy@UseNameKey{PrintClip}\pdfprintclip
10940 \Hy@UseNameKey{PrintScaling}\pdfprintscaling
10941 \Hy@UseNameKey{Duplex}\pdfduplex
10942 \ifx\@pdfpicktraybypdfsize\@empty
10943 \else
10944   /PickTrayByPDFSize \@pdfpicktraybypdfsize
10945 \fi
10946 \ifx\@pdfprintpagerange\@empty
10947 \else
10948   /PrintPageRange[\@pdfprintpagerange]%
10949 \fi
10950 \ifx\@pdfnumcopies\@empty
10951 \else
10952   /NumCopies \@pdfnumcopies
10953 \fi
10954 }%
10955 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10956 \@pdfm@mark{%
10957   docview<<%
10958     \ifx\@pdfstartpage\@empty
10959     \else
10960       \ifx\@pdfstartview\@empty
10961       \else
10962         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10963       \fi
10964     \fi
10965     \ifx\@baseurl\@empty
10966     \else
10967       /URI<</Base(\Hy@pstringB)>>%
10968     \fi
10969     /PageMode/\@pdfpagemode
10970     \ifx\Hy@temp\@empty
10971     \else
10972       /ViewerPreferences<<\Hy@temp>>%
10973     \fi
10974     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10975     \ifx\@pdflang\relax
10976     \else
10977       /Lang(\@pdflang)%
10978     \fi
10979   >>%
10980 }%
10981 \ifx\@pdfpagescrop\@empty
10982 \else
10983   \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10984 \fi
10985 }
10986 </dvi pdfm | xetex>

```

```
10987 <*dvipdfm | xetex>
```

```
\hyper@pagetransition
```

```
10988 \def\hyper@pagetransition{%
10989   \ifx\@pdfpagetransition\relax
10990   \else
10991     \ifx\@pdfpagetransition\@empty
10992     \else
10993       \special{pdf:put @thispage %
10994         <</Trans<</S/\@pdfpagetransition>>>>%
10995       }%
10996     \fi
10997   \fi
10998 }
```

```
\hyper@pageduration
```

```
10999 \def\hyper@pageduration{%
11000   \ifx\@pdfpageduration\relax
11001   \else
11002     \ifx\@pdfpageduration\@empty
11003     \else
11004       \special{pdf:put @thispage %
11005         <</Dur \@pdfpageduration>>>>%
11006       }%
11007     \fi
11008   \fi
11009 }
```

```
\hyper@pagehidden
```

```
11010 \def\hyper@pagehidden{%
11011   \ifHy@useHidKey
11012     \special{pdf:put @thispage %
11013       <</Hid \ifHy@pdfpagehidden true\else false\fi>>>>%
11014     }%
11015   \fi
11016 }

11017 \g@addto@macro\Hy@EveryPageBoxHook{%
11018   \hyper@pagetransition
11019   \hyper@pageduration
11020   \hyper@pagehidden
11021 }
```

```
11022 </dvipdfm | xetex>
```

XeTeX uses pdfTeX's method `\pdfpagewidth` and `\pdfpageheight` for setting the paper size.

```
11023 <*dvipdfm>
11024 \AtBeginShipoutFirst{%
11025   \ifHy@setpagesize
```

```

11026 \begingroup
11027 \ifundefined{stockwidth}{%
11028 \ifdim\paperwidth>\z@
11029 \ifdim\paperheight>\z@
11030 \special{papersize=\the\paperwidth,\the\paperheight}%
11031 \fi
11032 \fi
11033 }{%
11034 \ifdim\stockwidth>\z@
11035 \ifdim\stockheight>\z@
11036 \special{papersize=\the\stockwidth,\the\stockheight}%
11037 \fi
11038 \fi
11039 }%
11040 \endgroup
11041 \fi
11042 \Hy@DisableOption{setpagesize}%
11043 }
11044 </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.

```

11045 <*vtexhtml>
11046 \providecommand*\XR@ext}{htm}
11047 \RequirePackage{vtexhtml}
11048 \newif\if@Localurl
11049 \let\PDF@FinishDoc\ltx@empty
11050 \def\PDF@SetupDoc{%
11051 \ifx\@baseurl\@empty
11052 \else
11053 \special{!direct <base href="\@baseurl">}%
11054 \fi
11055 }
11056 \def\@urltype{url}
11057 \def\hyper@link#1#2#3{%
11058 \Hy@VerboseLinkStart{#1}{#2}%
11059 \leavevmode
11060 \special{!direct <a href=%
11061 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
11062 #3\Hy@xspace@end
11063 \special{!direct </a>}%
11064 }
11065 \def\hyper@linkurl#1#2{%
11066 \begingroup
11067 \hyper@chars
11068 \leavevmode
11069 \MathBSuppress=1\relax

```

```

11070 \special{!direct <a href=%
11071 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
11072 #1\Hy@xspace@end
11073 \MathBSuppress=0\relax
11074 \special{!direct </a>}%
11075 \endgroup
11076 }
11077 \def\hyper@linkfile#1#2#3{%
11078 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
11079 }
11080 \def\hyper@linkstart#1#2{%
11081 \Hy@VerboseLinkStart{#1}{#2}%
11082 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
11083 \@Localurltrue
11084 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
11085 \else
11086 \@Localurlfalse
11087 \begingroup
11088 \hyper@chars
11089 \special{!aref \HyperDestNameFilter{#2}}%
11090 \endgroup
11091 \fi
11092 }
11093 \def\hyper@linkend{%
11094 \if@Localurl
11095 \special{!endaref}%
11096 \else
11097 \special{!direct </a>}%
11098 \fi
11099 }
11100 \Hy@WrapperDef\hyper@anchorstart#1{%
11101 \Hy@SaveLastskip
11102 \Hy@VerboseAnchor{#1}%
11103 \begingroup
11104 \hyper@chars
11105 \special{!aname #1}%
11106 \special{!direct <a name=%
11107 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11108 \endgroup
11109 \Hy@activeanchortrue
11110 }
11111 \def\hyper@anchorend{%
11112 \special{!direct </a>}%
11113 \Hy@activeanchorfalse
11114 \Hy@RestoreLastskip
11115 }
11116 \Hy@WrapperDef\hyper@anchor#1{%
11117 \Hy@SaveLastskip
11118 \Hy@VerboseAnchor{#1}%
11119 \begingroup

```



```

11120 \let\protect=\string
11121 \hyper@chars
11122 \leavevmode
11123 \special{!aname #1}%
11124 \special{!direct <a name=%
11125     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11126 \endgroup
11127 \Hy@activeanchortrue
11128 \bgroup\anchor@spot\egroup
11129 \special{!direct </a>}%
11130 \Hy@activeanchorfalse
11131 \Hy@RestoreLastskip
11132 }
11133 \def\@Form[#1]{%
11134 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
11135 }
11136 \let\@endForm\ltx@empty
11137 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11138 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
11139 }
11140 \def\@TextField[#1]#2{% parameters, label
11141 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
11142 }
11143 \def\@CheckBox[#1]#2{% parameters, label
11144 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
11145 }
11146 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11147 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
11148 }
11149 \def\@PushButton[#1]#2{% parameters, label
11150 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
11151 }
11152 \def\@Reset[#1]#2{%
11153 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
11154 }
11155 \def\@Submit[#1]#2{%
11156 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
11157 }
11158 </vtexhtml>
11159 <*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.

```

11160 \ifx\mediaheight\@undefined
11161 \else
11162 \ifx\mediaheight\relax
11163 \else
11164 \ifHy@setpagesize
11165 \providecommand*{\VTeXInitMediaSize}{%

```

```

11166 \ltx@ifundefined{stockwidth}{%
11167 \ifdim\paperheight>0pt %
11168 \setlength\mediaheight\paperheight
11169 \fi
11170 \ifdim\paperheight>0pt %
11171 \setlength\mediawidth\paperwidth
11172 \fi
11173 }{%
11174 \ifdim\stockheight>0pt %
11175 \setlength\mediaheight\stockheight
11176 \fi
11177 \ifdim\stockwidth>0pt %
11178 \setlength\mediawidth\stockwidth
11179 \fi
11180 }%
11181 }%
11182 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
11183 \fi
11184 \Hy@DisableOption{setpagesize}%
11185 \fi
11186 \fi

```

Older versions of VTeX require xyz in lower case.

```

11187 \providecommand*\@pdfview{xyz}
11188 \providecommand*\@pdfborder{0 0 1}
11189 \providecommand*\@pdfborderstyle{}
11190 \let\CurrentBorderColor\@linkbordercolor
11191 \Hy@WrapperDef\hyper@anchor#1{%
11192 \Hy@SaveLastskip
11193 \Hy@VerboseAnchor{#1}%
11194 \begingroup
11195 \let\protect=\string
11196 \hyper@chars
11197 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
11198 \endgroup
11199 \Hy@activeanchortrue
11200 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11201 \Hy@activeanchorfalse
11202 \Hy@RestoreLastskip
11203 }
11204 \Hy@WrapperDef\hyper@anchorstart#1{%
11205 \Hy@SaveLastskip
11206 \Hy@VerboseAnchor{#1}%
11207 \begingroup
11208 \hyper@chars
11209 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
11210 \endgroup
11211 \Hy@activeanchortrue
11212 }
11213 \def\hyper@anchorend{%

```

```

11214 \Hy@activeanchorfalse
11215 \Hy@RestoreLastskip
11216 }
11217 \def\@urltype{url}
11218 \def\Hy@undefinedname{UNDEFINED}
11219 \def\hyper@linkstart#1#2{%
11220 \Hy@VerboseLinkStart{#1}{#2}%
11221 \Hy@pstringdef\Hy@pstringURI{#2}%
11222 \expandafter\Hy@colorlink\csname @#1color\endcsname
11223 \ltx@ifundefined{@#1bordercolor}{%
11224 \let\CurrentBorderColor\relax
11225 }{%
11226 \edef\CurrentBorderColor{%
11227 \csname @#1bordercolor\endcsname
11228 }%
11229 }%
11230 \def\Hy@tempa{#1}%
11231 \ifx\Hy@tempa\@urltype
11232 \special{!%
11233   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11234   \ifHy@href@ismap
11235   /IsMap true%
11236   \fi
11237   \Hy@href@nextactionraw
11238   >;%
11239   a=<%
11240   \ifHy@pdfa /F 4\fi
11241   \Hy@setpdfborder
11242   \ifx\CurrentBorderColor\relax
11243   \else
11244   /C [\CurrentBorderColor]%
11245   \fi
11246   >%
11247   }%
11248 \else
11249 \protected@edef\Hy@testname{#2}%
11250 \ifx\Hy@testname\@empty
11251 \Hy@Warning{%
11252   Empty destination name,\MessageBreak
11253   using '\Hy@undefinedname'%
11254   }%
11255 \let\Hy@testname\Hy@undefinedname
11256 \fi
11257 \special{!%
11258   aref \expandafter\HyperDestNameFilter
11259   \expandafter{\Hy@testname};%
11260   a=<%
11261   \ifHy@pdfa /F 4\fi
11262   \Hy@setpdfborder
11263   \ifx\CurrentBorderColor\relax

```

```

11264     \else
11265         /C [\CurrentBorderColor]%
11266     \fi
11267     >%
11268     }%
11269 \fi
11270 }
11271 \def\hyper@linkend{%
11272     \special{!endaref}%
11273     \Hy@endcolorlink
11274 }
11275 \def\hyper@linkfile#1#2#3{%
11276     \leavevmode
11277     \def\Hy@pstringF{#2}%
11278     \Hy@CleanupFile\Hy@pstringF
11279     \special{!%
11280         aref <%
11281         \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
11282         f=\Hy@pstringF>#3;%
11283         a=<%
11284         \ifHy@pdfa /F 4\fi
11285         \Hy@setpdfborder
11286         \ifx\@filebordercolor\relax
11287             \else
11288                 /C [\@filebordercolor]%
11289             \fi
11290         >%
11291         }%
11292         \Hy@colorlink\@filecolor
11293         #1\Hy@xspace@end
11294         \Hy@endcolorlink
11295         \special{!endaref}%
11296     }
11297 \def\hyper@linkurl#1#2{%
11298     \begingroup
11299     \Hy@pstringdef\Hy@pstringURI{#2}%
11300     \hyper@chars
11301     \leavevmode
11302     \special{!%
11303         aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11304         \ifHy@href@ismap
11305             /IsMap true%
11306         \fi
11307         \Hy@href@nextactionraw
11308         >,%
11309         a=<%
11310         \ifHy@pdfa /F 4\fi
11311         \Hy@setpdfborder
11312         \ifx\@urlbordercolor\relax
11313             \else

```

```

11314      /C [\@urlbordercolor]%
11315      \fi
11316      >%
11317      }%
11318      \Hy@colorlink\@urlcolor
11319      #1\Hy@xspace@end
11320      \Hy@endcolorlink
11321      \special{!endaref}%
11322      \endgroup
11323      }
11324      \def\hyper@link#1#2#3{%
11325      \Hy@VerboseLinkStart{#1}{#2}%
11326      \ltx@ifundefined{@#1bordercolor}{%
11327      \let\CurrentBorderColor\relax
11328      }{%
11329      \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
11330      }%
11331      \leavevmode
11332      \protected@edef\Hy@testname{#2}%
11333      \ifx\Hy@testname\@empty
11334      \Hy@Warning{%
11335      Empty destination name,\MessageBreak
11336      using '\Hy@undefinedname'%
11337      }%
11338      \let\Hy@testname\Hy@undefinedname
11339      \fi
11340      \special{!%
11341      aref \expandafter\HyperDestNameFilter
11342      \expandafter{\Hy@testname};%
11343      a=<%
11344      \ifHy@pdfa /F 4\fi
11345      \Hy@setpdfborder
11346      \ifx\CurrentBorderColor\relax
11347      \else
11348      /C [\CurrentBorderColor]%
11349      \fi
11350      >%
11351      }%
11352      \expandafter
11353      \Hy@colorlink\csname @#1color\endcsname
11354      #3\Hy@xspace@end
11355      \Hy@endcolorlink
11356      \special{!endaref}%
11357      }
11358      \def\hyper@image#1#2{%
11359      \hyper@linkurl{#2}{#1}%
11360      }
11361      \def\@hyper@launch run:#1\#2#3{%
11362      \Hy@pstringdef\Hy@pstringF{#1}%
11363      \Hy@pstringdef\Hy@pstringP{#3}%

```

```

11364 \leavevmode
11365 \special{!aref %
11366   <u=%
11367     /Type/Action%
11368     /S/Launch%
11369     /F(\Hy@pstringF)%
11370     \Hy@SetNewWindow
11371     \ifx\#3\%
11372   \else
11373     /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
11374   \fi
11375   \Hy@href@nextactionraw
11376 >,%
11377 a=<%
11378   \ifHy@pdfa /F 4\fi
11379   \Hy@setpdfborder
11380   \ifx\@runbordercolor\relax
11381   \else
11382     /C[\@runbordercolor]%
11383   \fi
11384 >%
11385 }%
11386 \Hy@colorlink\@runcolor
11387   #2\Hy@xspace@end
11388 \Hy@endcolorlink
11389 \special{!endaref}%
11390 }
11391 \def\Acrobatmenu#1#2{%
11392   \EdefEscapeName\Hy@temp@menu{#1}%
11393   \Hy@Acrobatmenu{#1}{#2}{%
11394     \special{!%
11395       aref <u=/S /Named /N /\Hy@temp@menu>;%
11396       a=<%
11397         \ifHy@pdfa /F 4\fi
11398         \Hy@setpdfborder
11399         \ifx\@menubordercolor\relax
11400         \else
11401           /C[\@menubordercolor]%
11402         \fi
11403       >%
11404     }%
11405     \Hy@colorlink\@menucolor
11406     #2\Hy@xspace@end
11407     \Hy@endcolorlink
11408     \special{!endaref}%
11409   }%
11410 }

```

The following code (transition effects) is made by Alex Kostin.  
The code below makes sense for VT<sub>E</sub>X 7.02 or later.

Please never use `\@ifundefined{VTeXversion}{...}{...}` globally.

```
11411 \ifnum\Hy@VTeXversion<702 %
11412 \else
11413 \def\hyper@pagetransition{%
11414 \ifx\@pdfpagetransition\relax
11415 \else
11416 \ifx\@pdfpagetransition\@empty
```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```
11417 \else
11418 \hvtex@parse@trans\@pdfpagetransition
11419 \fi
11420 \fi
11421 }%
```

I have to write an “honest” parser to convert raw PDF code into V<sub>T</sub>E<sub>X</sub> `\special`.  
(AVK)

Syntax of V<sub>T</sub>E<sub>X</sub> `\special{!trans <transition_effect>}`:

```
<transition_effect> ::= <transition_style>[,<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> |
                        <Dissolve_effect> | <Glitter_effect> |
                        <Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D
<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>
```

Transition codes:

```
11422 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
11423 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
11424 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
11425 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
11426 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
11427 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
11428 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%
```

Optional parameters:

```
11429 \def\hvtex@par@dimension{/Dm}%
11430 \def\hvtex@par@direction{/Di}%
11431 \def\hvtex@par@duration{/D}%
11432 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
11433 \def\hvtex@gettoken{%
11434   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
11435 }%
```

Notice that tokens in the input buffer must be space delimited.

```
11436 \def\hvtex@gettoken@#1 #2\@nil{%
11437   \edef\hvtex@token{#1}%
11438   \edef\hvtex@buffer{#2}%
11439 }%
11440 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
11441 \let\hvtex@trans@code\@empty
11442 \let\hvtex@param@dimension\@empty
11443 \let\hvtex@param@direction\@empty
11444 \let\hvtex@param@duration\@empty
11445 \let\hvtex@param@motion\@empty
11446 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
11447 \hvtex@gettoken
11448 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
11449 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
11450   \else
11451     \hvtex@gettoken
11452   \fi
11453 \fi
11454 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
11455 \hvtex@trans@params
11456 }%
```

Reentrant macro to parse optional parameters.

```
11457 \def\hvtex@trans@params{%
11458   \ifx\hvtex@buffer\@empty
11459   \else
11460     \hvtex@gettoken
11461     \let\hvtex@trans@par\hvtex@token
11462     \ifx\hvtex@buffer\@empty
11463     \else
11464       \hvtex@gettoken
11465       \ifx\hvtex@trans@par\hvtex@par@duration
```

/D is the effect duration in seconds. V<sub>T</sub>E<sub>X</sub> special takes it in milliseconds.

```
11466       \let\hvtex@param@duration\hvtex@token
11467     \else \ifx\hvtex@trans@par\hvtex@par@motion
```



/M can be either /I or /O

```
11468     \expandafter\edef\expandafter\hvtex@param@motion
11469     \expandafter{\expandafter\@gobble\hvtex@token}%
11470     \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
11471     \expandafter\edef\expandafter\hvtex@param@dimension
11472     \expandafter{\expandafter\@gobble\hvtex@token}%
11473     \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).

```
11474     \let\hvtex@param@direction\hvtex@token
11475     \fi\fi\fi\fi
11476     \fi
11477     \fi
11478     \ifx\hvtex@buffer\@empty
11479     \let\next\hvtex@produce@trans
11480     \else
11481     \let\next\hvtex@trans@params
11482     \fi
11483     \next
11484 }%
```

Merge <transition\_effect> and issue the special when possible. Too lazy to validate optional parameters.

```
11485 \def\hvtex@produce@trans{%
11486 \let\vtex@trans@special\@empty
11487 \if S\hvtex@trans@code
11488 \edef\vtex@trans@special{\hvtex@trans@code
11489 \hvtex@param@dimension\hvtex@param@motion}%
11490 \else\if B\hvtex@trans@code
11491 \edef\vtex@trans@special{%
11492 \hvtex@trans@code\hvtex@param@dimension
11493 }%
11494 \else\if X\hvtex@trans@code
11495 \edef\vtex@trans@special{%
11496 \hvtex@trans@code\hvtex@param@motion
11497 }%
11498 \else\if W\hvtex@trans@code
11499 \edef\vtex@trans@special{%
11500 \hvtex@trans@code\hvtex@param@direction
11501 }%
11502 \else\if D\hvtex@trans@code
11503 \let\vtex@trans@special\hvtex@trans@code
11504 \else\if R\hvtex@trans@code
11505 \let\vtex@trans@special\hvtex@trans@code
11506 \else\if G\hvtex@trans@code
11507 \edef\vtex@trans@special{%
11508 \hvtex@trans@code\hvtex@param@direction
11509 }%
```

```

11510 \fi\fi\fi\fi\fi\fi
11511 \ifx\vtex@trans@special\@empty
11512 \else
11513 \ifx\hvtex@param@duration\@empty
11514 \else
11515 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

11516 \multiply\dimen@\@m
11517 \edef\vtex@trans@special{%
11518 \vtex@trans@special,\strip@pt\dimen@
11519 }%
11520 \fi

```

And all the mess is just for this.

```

11521 \special{!trans \vtex@trans@special}%
11522 \fi
11523 }%
11524 \def\hyper@pageduration{%
11525 \ifx\@pdfpageduration\relax
11526 \else
11527 \ifx\@pdfpageduration\@empty
11528 \special{!duration-}%
11529 \else
11530 \special{!duration \@pdfpageduration}%
11531 \fi
11532 \fi
11533 }%
11534 \def\hyper@pagehidden{%
11535 \ifHy@useHidKey
11536 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
11537 \fi
11538 }%
11539 \g@addto@macro\Hy@EveryPageBoxHook{%
11540 \hyper@pagetransition
11541 \hyper@pageduration
11542 \hyper@pagehidden
11543 }%
11544 \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

```

11545 \ifx\@pdfproducer\relax
11546 \def\@pdfproducer{VTeX}%
11547 \ifnum\Hy@VTeXversion>\z@
11548 \count@\VTeXversion
11549 \divide\count@ 100 %
11550 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
11551 \multiply\count@ -100 %
11552 \advance\count@\VTeXversion
11553 \edef\@pdfproducer{%
11554 \@pdfproducer
11555 .\ifnum\count@<10 0\fi\the\count@
11556 \ifx\VTeXOS\@undefined\else
11557 \ifnum\VTeXOS>0 %
11558 \ifnum\VTeXOS<6 %
11559 \space(%
11560 \ifcase\VTeXOS
11561 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
11562 \fi
11563 )%
11564 \fi
11565 \fi
11566 \fi
11567 ,\space
11568 \ifnum\OpMode=\@ne PDF\else PS\fi
11569 \space backend%
11570 \ifx\gexmode\@undefined\else
11571 \ifnum\gexmode>\z@\space with GeX\fi
11572 \fi
11573 }%
11574 \fi
11575 \fi

```

Current `!pdfinfo` key syntax:

Key	Field	Type
<b>a</b>	<b>Author</b>	String
<b>b</b>	<b>CropBox</b>	String
<b>c</b>	<b>Creator</b>	String
<b>k</b>	<b>Keywords</b>	String
<b>l</b>	<b>PageLayout</b>	PS
<b>p</b>	<b>PageMode</b>	PS
<b>r</b>	<b>Producer</b>	String
<b>s</b>	<b>Subject</b>	String
<b>t</b>	<b>Title</b>	String
<b>u</b>	<b>URI</b>	PS
<b>v</b>	<b>ViewPreferences</b>	PS

Note: PS objects that are dicts are in <<.>>> (yuck; no choice).

```

11576 \def\PDF@SetupDoc{%
11577 \ifx\@pdfpagescrop\@empty
11578 \else

```

```

11579 \special{!pdfinfo b=<\@pdfpagescrop>}%
11580 \fi
11581 \ifx\@pdfstartpage\@empty
11582 \else
11583 \ifx\@pdfstartview\@empty
11584 \else
11585 \special{!onopen Page\@pdfstartpage}%
11586 \fi
11587 \fi
11588 \special{!pdfinfo p=<\/\@pdfpagemode>}%
11589 \ifx\@baseurl\@empty
11590 \else
11591 \special{!pdfinfo u=<<<\/Base (\@baseurl)>>>}%
11592 \fi
11593 \special{!pdfinfo v=<<<%
11594 \ifHy@pdftoolbar\else /HideToolbar true\fi
11595 \ifHy@pdfmenubar\else /HideMenubar true\fi
11596 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11597 \ifHy@pdfwindow /FitWindow true\fi
11598 \ifHy@pdfcenterwindow /CenterWindow true\fi
11599 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11600 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11601 \Hy@UseNameKey{Direction}\@pdfdirection
11602 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11603 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11604 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11605 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11606 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11607 \Hy@UseNameKey{Duplex}\@pdfduplex
11608 \ifx\@pdfpicktraybypdfsize\@empty
11609 \else
11610 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11611 \fi
11612 \ifx\@pdfprintpagerange\@empty
11613 \else
11614 /PrintPageRange[\@pdfprintpagerange]%
11615 \fi
11616 \ifx\@pdfnumcopies\@empty
11617 \else
11618 /NumCopies \@pdfnumcopies
11619 \fi
11620 >>>}%
11621 \ifx\@pdfpagelayout\@empty
11622 \else
11623 \special{!pdfinfo l=<\/\@pdfpagelayout\space>}%
11624 \fi
11625 }%
11626 \HyInfo@AddonUnsupportedtrue
11627 \define@key{Hyp}{pdfcreationdate}{%
11628 \Hy@Warning{%

```

```

11629 VTeX does not support pdfcreationdate.\MessageBreak
11630 Therefore its setting is ignored%
11631 }%
11632 }
11633 \define@key{Hyp}{pdfmoddate}{%
11634 \Hy@Warning{%
11635 VTeX does not support pdfmoddate.\MessageBreak
11636 Therefore its setting is ignored%
11637 }%
11638 }
11639 \def\PDF@FinishDoc{%
11640 \Hy@UseMaketitleInfos
11641 \HyInfo@TrappedUnsupported
11642 \special{!pdfinfo a=<\@pdfauthor>}%
11643 \special{!pdfinfo t=<\@pdftitle>}%
11644 \special{!pdfinfo s=<\@pdfsubject>}%
11645 \special{!pdfinfo c=<\@pdfcreator>}%
11646 \ifx\@pdfproducer\relax
11647 \else
11648 \special{!pdfinfo r=<\@pdfproducer>}%
11649 \fi
11650 \special{!pdfinfo k=<\@pdfkeywords>}%
11651 \Hy@DisableOption{pdfauthor}%
11652 \Hy@DisableOption{pdftitle}%
11653 \Hy@DisableOption{pdfsubject}%
11654 \Hy@DisableOption{pdfcreator}%
11655 \Hy@DisableOption{pdfcreationdate}%
11656 \Hy@DisableOption{pdfmoddate}%
11657 \Hy@DisableOption{pdfproducer}%
11658 \Hy@DisableOption{pdfkeywords}%
11659 \Hy@DisableOption{pdftrapped}%
11660 \Hy@DisableOption{pdfinfo}%
11661 }
11662 </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.

```

11663 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
11664 <package>\providecommand*{\Hy@DistillerDestFix}{%
11665 <*pdfmark | dviwindo>

```

```

11666 \def\Hy@DistillerDestFix{%
11667   \begingroup
11668   \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

11669   \ifnum \@ifundefined{OpMode}{0}{%
11670     \@ifundefined{gexmode}{0}{%
11671       \ifnum\gexmode>0 \OpMode\else 0\fi
11672     }>1 %
11673   \def\x##1{%
11674     \immediate\special{!=##1}%
11675   }%
11676 \fi
11677 \x{%
11678   /product where{%
11679     pop %
11680     product(Distiller)search{%
11681       pop pop pop %
11682       version(.)search{%
11683         exch pop exch pop%
11684         (3011)eq{%
11685           gsave %
11686           newpath 0 0 moveto closepath clip%
11687           /Courier findfont 10 scalefont setfont %
11688           72 72 moveto(.)show %
11689           grestore%
11690         }if%
11691       }{pop}ifelse%
11692     }{pop}ifelse%
11693   }if%
11694 }%
11695 \endgroup
11696 }
11697 </pdfmark | dviwindo>

```

## 47.8 Direct pdfmark support

Drivers that load `pdfmark.def` have to provide the correct macro definitions of

```

\@pdfproducer   for document information
\literalps@out  PostScript output
\headerps@out   PostScript output that goes in the header area

```

and the correct definitions of the following PostScript procedures:

```

H.S           start of anchor, link or rect
#1 H.A        end of anchor, argument=baselineskip in pt
#1 H.L        end of link, argument=baselineskip in pt
H.R           end of rect
H.B           raw rect code

```

```

11698 <*pdfmark>
11699 \Hy@breaklinks@unsupported
11700 \def\HyPat@ObjRef{%
11701   \[~{}]+\}%
11702 }
11703 \Hy@WrapperDef\hyper@anchor#1{%
11704   \Hy@SaveLastskip
11705   \Hy@VerboseAnchor{#1}%
11706   \begingroup
11707     \pdfmark[\anchor@spot]{%
11708       pdfmark=/DEST,%
11709       linktype=anchor,%
11710       View=/\@pdfview \@pdfviewparams,%
11711       DestAnchor={#1}%
11712     }%
11713   \endgroup
11714   \Hy@RestoreLastskip
11715 }
11716 \ltx@ifundefined{hyper@anchorstart}{\endinput}{}
11717 \Hy@WrapperDef\hyper@anchorstart#1{%
11718   \Hy@SaveLastskip
11719   \Hy@VerboseAnchor{#1}%
11720   \literals@out{H.S}%
11721   \Hy@AllowHyphens
11722   \xdef\hyper@currentanchor{#1}%
11723   \Hy@activeanchortrue
11724 }
11725 \def\hyper@anchorend{%
11726   \literals@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11727   \pdfmark{%
11728     pdfmark=/DEST,%
11729     linktype=anchor,%
11730     View=/\@pdfview \@pdfviewparams,%
11731     DestAnchor=\hyper@currentanchor,%
11732   }%
11733   \Hy@activeanchorfalse
11734   \Hy@RestoreLastskip
11735 }
11736 \def\hyper@linkstart#1#2{%
11737   \Hy@VerboseLinkStart{#1}{#2}%
11738   \ifHy@breaklinks
11739     \else
11740       \leavevmode
11741       \ifmmode
11742         \def\Hy@LinkMath{$}%
11743       \else
11744         \let\Hy@LinkMath\ltx@empty
11745       \fi
11746       \Hy@SaveSpaceFactor
11747       \hbox\bgroup

```

```

11748 \Hy@RestoreSpaceFactor
11749 \Hy@LinkMath
11750 \fi
11751 \expandafter\Hy@colorlink\csname @#1color\endcsname
11752 \literalps@out{H.S}%
11753 \Hy@AllowHyphens
11754 \xdef\hyper@currentanchor{#2}%
11755 \gdef\hyper@currentlinktype{#1}%
11756 }
11757 \def\hyper@linkend{%
11758 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11759 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11760 \let\Hy@tempcolor\relax
11761 }{%
11762 \edef\Hy@tempcolor{%
11763 \csname @\hyper@currentlinktype bordercolor\endcsname
11764 }%
11765 }%
11766 \pdfmark{%
11767 pdfmark=/ANN,%
11768 linktype=link,%
11769 Subtype=/Link,%
11770 PDFAFlags=4,%
11771 Dest=\hyper@currentanchor,%
11772 AcroHighlight=\@pdfhighlight,%
11773 Border=\@pdfborder,%
11774 BorderStyle=\@pdfborderstyle,%
11775 Color=\Hy@tempcolor,%
11776 Raw=H.B%
11777 }%
11778 \Hy@endcolorlink
11779 \ifHy@breaklinks
11780 \else
11781 \Hy@LinkMath
11782 \Hy@SaveSpaceFactor
11783 \egroup
11784 \Hy@RestoreSpaceFactor
11785 \fi
11786 }

```

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.

```

11787 \begingroup
11788 \catcode'P=12 %
11789 \catcode'T=12 %
11790 \lowercase{\endgroup
11791 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11792 }
11793 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```



\hyper@pagetransition

```
11794 \def\hyper@pagetransition{%
11795   \ifx\@pdfpagetransition\relax
11796   \else
11797     \ifx\@pdfpagetransition\@empty
11798       % 1. Does an old entry have to be deleted?
11799       % 2. If 1=yes, how to delete?
11800     \else
11801       \pdfmark{%
11802         pdfmark=/PUT,%
11803         Raw={%
11804           \string{ThisPage\string}%
11805           <</Trans << /S /\@pdfpagetransition\space >> >>%
11806         }%
11807       }%
11808     \fi
11809   \fi
11810 }
```

\hyper@pageduration

```
11811 \def\hyper@pageduration{%
11812   \ifx\@pdfpageduration\relax
11813   \else
11814     \ifx\@pdfpageduration\@empty
11815       % 1. Does an old entry have to be deleted?
11816       % 2. If 1=yes, how to delete?
11817     \else
11818       \pdfmark{%
11819         pdfmark=/PUT,%
11820         Raw={%
11821           \string{ThisPage\string}%
11822           <</Dur \@pdfpageduration>>%
11823         }%
11824       }%
11825     \fi
11826   \fi
11827 }
```

\hyper@pagehidden

```
11828 \def\hyper@pagehidden{%
11829   \ifHy@useHidKey
11830   \pdfmark{%
11831     pdfmark=/PUT,%
11832     Raw={%
11833       \string{ThisPage\string}%
11834       <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11835     }%
11836   }%
11837 \fi
11838 }
```

```

11839 \g@addto@macro\Hy@EveryPageBoxHook{%
11840   \hyper@pagetransition
11841   \hyper@pageduration
11842   \hyper@pagehidden
11843 }

11844 \def\hyper@image#1#2{%
11845   \hyper@linkurl{#2}{#1}%
11846 }

11847 \def\Hy@undefinedname{UNDEFINED}
11848 \def\hyper@link#1#2#3{%
11849   \Hy@VerboseLinkStart{#1}{#2}%
11850   \ltx@ifundefined{@#1bordercolor}{%
11851     \let\Hy@tempcolor\relax
11852   }{%
11853     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11854   }%
11855   \begingroup
11856     \protected@edef\Hy@testname{#2}%
11857     \ifx\Hy@testname\@empty
11858       \Hy@Warning{%
11859         Empty destination name,\MessageBreak
11860         using '\Hy@undefinedname'%
11861       }%
11862       \let\Hy@testname\Hy@undefinedname
11863     \fi
11864     \pdfmark[{#3}]{%
11865       Color=\Hy@tempcolor,%
11866       linktype={#1},%
11867       AcroHighlight=\@pdfhighlight,%
11868       Border=\@pdfborder,%
11869       BorderStyle=\@pdfborderstyle,%
11870       pdfmark=/ANN,%
11871       Subtype=/Link,%
11872       PDFAFlags=4,%
11873       Dest=\Hy@testname
11874     }%
11875   \endgroup
11876 }

11877 \newtoks\pdf@docset
11878 \def\PDF@FinishDoc{%
11879   \Hy@UseMaketitleInfos
11880   \Hy@Info@GenerateAddons
11881   \let\Hy@temp\@empty
11882   \ifx\@pdfcreationdate\@empty
11883   \else
11884     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11885   \fi
11886   \ifx\@pdfmoddate\@empty
11887   \else

```

```

11888 \expandafter\def\expandafter\Hy@temp\expandafter{%
11889 \Hy@temp
11890 ModDate=\@pdfmoddate,%
11891 }%
11892 \fi
11893 \ifx\@pdfproducer\relax
11894 \else
11895 \expandafter\def\expandafter\Hy@temp\expandafter{%
11896 \Hy@temp
11897 Producer=\@pdfproducer,%
11898 }%
11899 \fi
11900 \expandafter
11901 \pdfmark\expandafter{%
11902 \Hy@temp
11903 pdfmark=/DOCINFO,%
11904 Title=\@pdftitle,%
11905 Subject=\@pdfsubject,%
11906 Creator=\@pdfcreator,%
11907 Author=\@pdfauthor,%
11908 Keywords=\@pdfkeywords,%
11909 Trapped=\@pdftrapped
11910 }%
11911 \ifx\HyInfo@Addons\@empty
11912 \else
11913 \pdfmark{%
11914 pdfmark=/DOCINFO,%
11915 Raw={\HyInfo@Addons}%
11916 }%
11917 \fi
11918 \Hy@DisableOption{pdfauthor}%
11919 \Hy@DisableOption{pdftitle}%
11920 \Hy@DisableOption{pdfsubject}%
11921 \Hy@DisableOption{pdfcreator}%
11922 \Hy@DisableOption{pdfcreationdate}%
11923 \Hy@DisableOption{pdfmoddate}%
11924 \Hy@DisableOption{pdfproducer}%
11925 \Hy@DisableOption{pdfkeywords}%
11926 \Hy@DisableOption{pdftrapped}%
11927 \Hy@DisableOption{pdfinfo}%
11928 }
11929 \def\PDF@SetupDoc{%
11930 \def\Hy@temp{%
11931 \ifx\@pdfstartpage\@empty
11932 \else
11933 \ifx\@pdfstartview\@empty
11934 \else
11935 \edef\Hy@temp{%
11936 ,Page=\@pdfstartpage
11937 ,View=\@pdfstartview

```

```

11938     }%
11939     \fi
11940 \fi
11941 \edef\Hy@temp{%
11942     \noexpand\pdfmark{%
11943         pdfmark=/DOCVIEW,%
11944         PageMode=/\@pdfpagemode
11945     }\Hy@temp
11946     }%
11947 }%
11948 \Hy@temp
11949 \ifx\@pdfpagescrop\@empty
11950 \else
11951     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11952 \fi
11953 \edef\Hy@temp{%
11954     \ifHy@pdftoolbar\else /HideToolbar true\fi
11955     \ifHy@pdfmenubar\else /HideMenubar true\fi
11956     \ifHy@pdfwindowui\else /HideWindowUI true\fi
11957     \ifHy@pdfwindow /FitWindow true\fi
11958     \ifHy@pdfcenterwindow /CenterWindow true\fi
11959     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11960     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11961     \Hy@UseNameKey{Direction}\@pdfdirection
11962     \Hy@UseNameKey{ViewArea}\@pdfviewarea
11963     \Hy@UseNameKey{ViewClip}\@pdfviewclip
11964     \Hy@UseNameKey{PrintArea}\@pdfprintarea
11965     \Hy@UseNameKey{PrintClip}\@pdfprintclip
11966     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11967     \Hy@UseNameKey{Duplex}\@pdfduplex
11968     \ifx\@pdfpicktraybypdfsize\@empty
11969     \else
11970         /PickTrayByPDFSize \@pdfpicktraybypdfsize
11971     \fi
11972     \ifx\@pdfprintpagerange\@empty
11973     \else
11974         /PrintPageRange[\@pdfprintpagerange]%
11975     \fi
11976     \ifx\@pdfnumcopies\@empty
11977     \else
11978         /NumCopies \@pdfnumcopies
11979     \fi
11980 }%
11981 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11982 \pdfmark{%
11983     pdfmark=/PUT,%
11984     Raw={%
11985         \string{Catalog\string}<<%
11986         \ifx\Hy@temp\@empty
11987         \else

```

```

11988      /ViewerPreferences<<\Hy@temp>>%
11989      \fi
11990      \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11991      \ifx\@pdflang\relax
11992      \else
11993      /Lang(\@pdflang)%
11994      \fi
11995      \ifx\@baseurl\@empty
11996      \else
11997      /URI<</Base(\Hy@pstringB)>>%
11998      \fi
11999      >>%
12000    }%
12001  }%
12002 }
12003 </pdfmark>
12004 <*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.

```

12005 \newif\ifHy@pdfmarkerror
12006 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
12007 \def\pdfmark@[#1]#2{%
12008   \Hy@pdfmarkerrorfalse
12009   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
12010   \@processme
12011   \let\pdf@type\relax
12012   \let\pdf@objdef\ltx@empty
12013   \kvsetkeys{PDF}{#2}%
12014   \ifHy@pdfmarkerror
12015   \else
12016     \ifx\pdf@type\relax
12017       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
12018       \ifx\#1\%
12019       \else
12020         \pdf@rect{#1}%
12021       \fi
12022     \else
12023       \ifx\#1\%
12024         \literalps@out{%
12025           [%
12026           \ifx\pdf@objdef\ltx@empty
12027           \else
12028             /_objdef\string{\pdf@objdef\string}%
12029           \fi
12030           \the\pdf@toks\space\pdf@type\space pdfmark%

```

```

12031 }%
12032 \else
12033 \ltx@ifundefined{@pdf@linktype color}{%
12034 \Hy@colorlink\@linkcolor
12035 }{%
12036 \expandafter\Hy@colorlink
12037 \csname @pdf@linktype color\endcsname
12038 }%
12039 \pdf@rect{#1}%
12040 \literalps@out{%
12041 [%
12042 \ifx\pdf@objdef\ltx@empty
12043 \else
12044 /_objdef\string{\pdf@objdef\string}%
12045 \fi
12046 \the\pdf@toks\space\pdf@type\space pdfmark%
12047 }%
12048 \Hy@endcolorlink
12049 \fi
12050 \fi
12051 \fi
12052 }

```

The complicated bit is working out the right enclosing rectangle of some piece of TeX text, needed by the /Rect key. This solution originates with Toby Thain (tobyth@netspace.net.au).

For the case breaklinks is enabled, I have added two hooks, the first one for package setouterhbox, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

```

```

12053 \newsavebox{\pdf@box}
12054 \providecommand*\Hy@setouterhbox{\sbox}
12055 \providecommand*\Hy@breaklinksunhbox{\unhbox}
12056 \def\Hy@DEST{/DEST}
12057 \def\pdf@rect#1{%
12058 \begingroup
12059 \chardef\x=1 %
12060 \def\Hy@temp{#1}%
12061 \ifx\Hy@temp\ltx@empty
12062 \chardef\x=0 %
12063 \else
12064 \def\y{\anchor@spot}%
12065 \ifx\Hy@temp\y
12066 \def\y{\relax}%

```

```

12067      \ifx\anchor@spot\y
12068      \chardef\x=0 %
12069      \fi
12070  \fi
12071  \fi
12072  \expandafter\endgroup
12073  \ifcase\x
12074    \literalps@out{H.S}%
12075    \literalps@out{H.R}%
12076  \else
12077    \leavevmode
12078    \Hy@SaveSpaceFactor
12079    \ifmmode
12080      \def\Hy@LinkMath{$}%
12081    \else
12082      \let\Hy@LinkMath\ltx@empty
12083    \fi
12084    \ifHy@breaklinks
12085      \Hy@setouterhbox\pdf@box{%
12086        \Hy@RestoreSpaceFactor
12087        \Hy@LinkMath
12088        \Hy@AllowHyphens#1\Hy@xspace@end
12089        \Hy@LinkMath
12090        \Hy@SaveSpaceFactor
12091      }%
12092    \else
12093      \sbox\pdf@box{%
12094        \Hy@RestoreSpaceFactor
12095        \Hy@LinkMath
12096        #1\Hy@xspace@end
12097        \Hy@LinkMath
12098        \Hy@SaveSpaceFactor
12099      }%
12100    \fi
12101    \dimen@\ht\pdf@box
12102    \ifdim\dp\pdf@box=\z@
12103      \literalps@out{H.S}%
12104    \else
12105      \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
12106    \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...).

```

12107  \ifHy@breaklinks
12108    \ifhmode
12109      \Hy@breaklinksunhbox\pdf@box
12110    \else
12111      \box\pdf@box
12112    \fi
12113  \else

```

```

12114 \expandafter\box\pdf@box
12115 \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

12116 \ifdim\dimen@=\z@
12117 \literalps@out{H.R}%
12118 \else
12119 \raise\dimen@\hbox{\literalps@out{H.R}}%
12120 \fi
12121 \Hy@RestoreSpaceFactor
12122 \fi
12123 \ifx\pdf@type\Hy@DEST
12124 \else
12125 \pdf@addtoksx{H.B}%
12126 \fi
12127 }

```

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.

```

12128 \newtoks\pdf@toks
12129 \newtoks\pdf@defaulttoks
12130 \pdf@defaulttoks={}%
12131 \def\pdf@addtoks#1#2{%
12132 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
12133 \@processme
12134 }
12135 \def\pdf@addtoksx#1{%
12136 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
12137 \@processme
12138 }
12139 \def\PDFdefaults#1{%
12140 \pdf@defaulttoks={#1}%
12141 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

12142 % what is the type of pdfmark?
12143 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
12144 % what is the link type?
12145 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
12146 \def\pdf@linktype{link}
12147 % named object?
12148 \define@key{PDF}{objdef}{\edef\pdf@objdef{#1}}
12149 \let\pdf@objdef\tx@empty
12150 % parameter is a stream of PDF
12151 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}

```



```

12152 % parameter is a name
12153 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
12154 % parameter is a array
12155 \define@key{PDF}{Border}{%
12156   \edef\Hy@temp{#1}%
12157   \ifx\Hy@temp\@empty
12158   \else
12159     \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
12160   \fi
12161 }
12162 \let\Hy@BorderArrayPatch\@empty
12163 % parameter is a dictionary
12164 \define@key{PDF}{BorderStyle}{%
12165   \edef\Hy@temp{#1}%
12166   \ifx\Hy@temp\@empty
12167   \else
12168     \pdf@addtoks{<<#1>>}{BS}%
12169   \fi
12170 }
12171 % parameter is a array
12172 \define@key{PDF}{Color}{%
12173   \ifx\relax#1\relax
12174   \else
12175     \pdf@addtoks{[#1]}{Color}% hash-ok
12176   \fi
12177 }
12178 % parameter is a string
12179 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
12180 % parameter is a integer
12181 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
12182 % parameter is a array
12183 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
12184 % parameter is a string
12185 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
12186 % parameter is a string or file
12187 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
12188 % parameter is a destination
12189 \define@key{PDF}{Dest}{%
12190   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
12191   \ifx\Hy@pstringDest\@empty
12192     \Hy@pdfmarkerrortrue
12193     \Hy@Warning{Destination with empty name ignored}%
12194   \else
12195     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
12196   \fi
12197 }
12198 \define@key{PDF}{DestAnchor}{%
12199   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
12200   \ifx\Hy@pstringDest\@empty
12201     \Hy@pdfmarkerrortrue

```

```

12202 \Hy@Warning{Destination with empty name ignored}%
12203 \else
12204 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
12205 \fi
12206 }
12207 % parameter is a string
12208 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
12209 % parameter is a string
12210 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
12211 % parameter is a int
12212 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
12213 \define@key{PDF}{PDFAFlags}{%
12214 \ifHy@pdfa
12215 \pdf@addtoks{#1}{F}%
12216 \fi
12217 }
12218 % parameter is a name
12219 \define@key{PDF}{AcroHighlight}{%
12220 \begingroup
12221 \edef\x{#1}%
12222 \expandafter\endgroup\ifx\x\@empty
12223 \else
12224 \pdf@addtoks{#1}{H}%
12225 \fi
12226 }
12227 % parameter is a string
12228 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
12229 % parameter is a string
12230 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
12231 % parameter is a string
12232 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
12233 % parameter is a string
12234 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
12235 % parameter is a Boolean
12236 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
12237 % parameter is a integer or name
12238 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
12239 % parameter is a name
12240 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
12241 % parameter is a string
12242 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
12243 % parameter is a array
12244 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
12245 % parameter is a integer
12246 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
12247 % parameter is a name
12248 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
12249 % parameter is a string
12250 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
12251 % parameter is a string

```

```

12252 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
12253 % parameter is a string
12254 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
12255 % parameter is an array
12256 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
12257 % parameter is a string
12258 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

12259 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
12260 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
12261 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
12262 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
12263 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
12264 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
12265 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
12266 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
12267 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
12268 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
12269 \define@key{PDF}{Trapped}{%
12270   \edef\Hy@temp{#1}%
12271   \ifx\Hy@temp\@empty
12272     \else
12273       \pdf@addtoks{/#1}{Trapped}%
12274     \fi
12275   }
12276
12277 </pdfmarkbase>
12278 <*pdfmark>
12279 \def\Acrobatmenu#1#2{%
12280   \edef\EscapeName\Hy@temp@menu{#1}%
12281   \Hy@Acrobatmenu{#1}{#2}{%
12282     \pdfmark[{#2}]{%
12283       linktype=menu,%
12284       pdfmark=/ANN,%
12285       AcroHighlight=\@pdfhighlight,%
12286       Border=\@pdfborder,%
12287       BorderStyle=\@pdfborderstyle,%
12288       Color=\@menubordercolor,%
12289       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
12290       Subtype=/Link,%
12291       PDFAFlags=4%
12292     }%
12293   }%
12294 }

```

And now for some useful examples:

```

12295 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
12296 \def\PDFNextPage@[#1]#2{%
12297   \pdfmark[{#2}]{%
12298     #1,%

```

```

12299   Border=\@pdfborder,%
12300   BorderStyle=\@pdfborderstyle,%
12301   Color=.2 .1 .5,%
12302   pdfmark=/ANN,%
12303   Subtype=/Link,%
12304   PDFAFlags=4,%
12305   Page=/Next%
12306 }%
12307 }
12308 \def\PDFPreviousPage{%
12309   \ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
12310 }
12311 \def\PDFPreviousPage@[#1]#2{%
12312   \pdfmark[#{#2}]{%
12313     #1,%
12314     Border=\@pdfborder,%
12315     BorderStyle=\@pdfborderstyle,%
12316     Color=.4 .4 .1,%
12317     pdfmark=/ANN,%
12318     Subtype=/Link,%
12319     PDFAFlags=4,%
12320     Page=/Prev%
12321   }%
12322 }
12323 \def\PDFOpen#1{%
12324   \pdfmark{#1,pdfmark=/DOCVIEW}%
12325 }

```

This will only work if you use Distiller 2.1 or higher.

```

12326 \def\hyper@linkurl#1#2{%
12327   \begingroup
12328     \Hy@pstringdef\Hy@pstringURI{#2}%
12329     \hyper@chars
12330     \leavevmode
12331     \pdfmark[#{#1}]{%
12332       pdfmark=/ANN,%
12333       linktype=url,%
12334       AcroHighlight=\@pdfhighlight,%
12335       Border=\@pdfborder,%
12336       BorderStyle=\@pdfborderstyle,%
12337       Color=\@urlbordercolor,%
12338       Action={<<%
12339         /Subtype/URI%
12340         /URI(\Hy@pstringURI)%
12341         \ifHy@href@ismap
12342           /IsMap true%
12343         \fi
12344       >>},%
12345       Subtype=/Link,%
12346       PDFAFlags=4%

```

```

12347 }%
12348 \endgroup
12349 }
12350 \def\hyper@linkfile#1#2#3{%
12351 \begingroup
12352 \def\Hy@pstringF{#2}%
12353 \Hy@CleanupFile\Hy@pstringF
12354 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
12355 \Hy@pstringdef\Hy@pstringD{#3}%
12356 \Hy@MakeRemoteAction
12357 \leavevmode
12358 \pdfmark[{#1}]{%
12359 pdfmark=/ANN,%
12360 Subtype=/Link,%
12361 PDFAFlags=4,%
12362 AcroHighlight=\@pdfhighlight,%
12363 Border=\@pdfborder,%
12364 BorderStyle=\@pdfborderstyle,%
12365 linktype=file,%
12366 Color=\@filebordercolor,%
12367 Action={%
12368 <<%
12369 /S/GoToR%
12370 \Hy@SetNewWindow
12371 /F(\Hy@pstringF)%
12372 /D%
12373 \ifx\#3\%
12374 [\Hy@href@page\@pdfremotestartview]%
12375 \else
12376 (\Hy@pstringD)cvn%
12377 \fi
12378 \Hy@href@nextactionraw
12379 >>%
12380 }%
12381 }%
12382 \endgroup
12383 }
12384 \def\@hyper@launch run:#1\#2#3{%
12385 \begingroup
12386 \Hy@pstringdef\Hy@pstringF{#1}%
12387 \Hy@pstringdef\Hy@pstringP{#3}%
12388 \leavevmode
12389 \pdfmark[{#2}]{%
12390 pdfmark=/ANN,%
12391 Subtype=/Link,%
12392 PDFAFlags=4,%
12393 AcroHighlight=\@pdfhighlight,%
12394 Border=\@pdfborder,%
12395 BorderStyle=\@pdfborderstyle,%
12396 linktype=run,%

```

```

12397     Color=\@runbordercolor,%
12398     Action={%
12399         <<%
12400             /S/Launch%
12401             \Hy@SetNewWindow
12402             /F(\Hy@pstringF)%
12403             \ifx\#3\%
12404             \else
12405             /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
12406             \fi
12407             \Hy@href@nextactionraw
12408             >>%
12409         }%
12410     }%
12411 \endgroup
12412 }
12413 </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.

```

12414 <*dvips>
12415 \providecommand*\XR@ext}{pdf}
12416 \let\Hy@raisedlink\ltx@empty
12417 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
12418 \def\headerps@out#1{\special{! #1}}%
12419 \input{pdfmark.def}%
12420 \ifx\@pdfproducer\relax
12421   \def\@pdfproducer{dvips + Distiller}%
12422 \fi
12423 \providecommand*\@pdfborder{0 0 1}
12424 \providecommand*\@pdfborderstyle{}
12425 \providecommand*\@pdfview{XYZ}
12426 \providecommand*\@pdfviewparams{ H.V}
12427 \def\Hy@BorderArrayPatch{BorderArrayPatch}

12428 \g@addto@macro\Hy@FirstPageHook{%
12429   \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.

```
12430 /DvipsToPDF{72.27 mul Resolution div} def%
12431 /PDFToDvips{72.27 div Resolution mul} def%
12432 /BPToDvips{72 div Resolution mul}def%
```

The values inside the /Boder array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```
12433 /BorderArrayPatch{%
12434   [exch{%
12435     dup dup type/integertype eq exch type/realtype eq or%
12436     {BPToDvips}if%
12437   }forall]%
12438 }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.

```
12439 /HyperBorder {1 PDFToDvips} def%
12440 /H.V {pdf@hoff pdf@voff null} def%
12441 /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

```
12442 /H.S {%
12443   currentpoint %
12444   HyperBorder add /pdf@lly exch def %
12445   dup DvipsToPDF 72 add /pdf@hoff exch def %
12446   HyperBorder sub /pdf@llx exch def%
12447 } def%
```

The calculation of upper left  $y$  is done without raising the point in  $\text{\TeX}$ , by simply adding on the current `\baselineskip` to the current  $y$ . This is usually too much, so we remove a notional 2 points.

We have to see what the current baselineskip is, and convert it to the dvips coordinate system.

Argument: baselineskip in pt. The  $x$  and  $y$  coordinates of the current point, minus the baselineskip

```
12448 /H.L {%
12449   2 sub dup%
12450   /HyperBasePt exch def %
12451   PDFToDvips /HyperBaseDvips exch def %
12452   currentpoint %
12453   HyperBaseDvips sub /pdf@ury exch def%
12454   /pdf@urx exch def%
12455 } def%
```

```

12456 /H.A {%
12457   H.L %
12458 % | /pdf@voff| = the distance from the top of the page to a point
12459 % | \baselineskip| above the current point in PDF coordinates
12460   currentpoint exch pop %
12461   vsize 72 sub exch DvipsToPDF %
12462   HyperBasePt sub % baseline skip
12463   sub /pdf@voff exch def%
12464 } def%
12465 /H.R {%
12466   currentpoint %
12467   HyperBorder sub /pdf@ury exch def %
12468   HyperBorder add /pdf@urx exch def %
12469 % | /pdf@voff| = the distance from the top of the page to the current point, in
12470 % PDF coordinates
12471   currentpoint exch pop vsize 72 sub %
12472   exch DvipsToPDF sub /pdf@voff exch def%
12473 } def%
12474 }%
12475 }
12476 \AtBeginShipoutFirst{%
12477   \ifHy@setpagesize
12478     \begingroup
12479     \@ifundefined{stockwidth}{%
12480       \ifdim\paperwidth>\z@
12481         \ifdim\paperheight>\z@
12482           \special{papersize=\the\paperwidth,\the\paperheight}%
12483         \fi
12484       \fi
12485     }{%
12486       \ifdim\stockwidth>\z@
12487         \ifdim\stockheight>\z@
12488           \special{papersize=\the\stockwidth,\the\stockheight}%
12489         \fi
12490       \fi
12491     }%
12492   \endgroup
12493   \fi
12494   \Hy@DisableOption{setpagesize}%
12495 }
12496 \def\setpdfinkmargin#1{%
12497   \begingroup
12498   \setlength{\dimen@}{#1}%
12499   \literalps@out{%
12500     /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12501   }%
12502   \endgroup
12503 }
12504 </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.

```

12505 (*vtexpdfmark)
12506 \providecommand*\XR@ext}{pdf}
12507 \let\Hy@raisedlink\ltx@empty
12508 \def\literalps@out#1{\special{pS:#1}}%
12509 \def\headerps@out#1{\immediate\special{pS:#1}}%
12510 \input{pdfmark.def}%
12511 \ifx\@pdfproducer\relax
12512   \ifnum\OpMode=\@ne
12513     \def\@pdfproducer{VTeX}%
12514   \else
12515     \def\@pdfproducer{VTeX + Distiller}%
12516   \fi
12517 \fi
12518 \providecommand*\@pdfborder{0 0 1}
12519 \providecommand*\@pdfborderstyle{}
12520 \providecommand*\@pdfview{XYZ}
12521 \providecommand*\@pdfviewparams{ H.V}
12522 \g@addto@macro\Hy@FirstPageHook{%
12523   \headerps@out{%
12524     /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.

```

12525   /HyperBorder {1} def%
12526   /H.V {pdf@hoff pdf@voff null} def%
12527   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

12528   /H.S {%
12529     currentpoint %
12530     HyperBorder sub%
12531     /pdf@lly exch def %
12532     dup 72 add /pdf@hoff exch def %
12533     HyperBorder sub%
12534     /pdf@llx exch def%
12535   } def%

```

The  $x$  and  $y$  coordinates of the current point, minus the `\baselineskip`:  $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

12536   /H.L {%
12537     2 sub%
12538     /HyperBasePt exch def %

```

```

12539    currentpoint %
12540    HyperBasePt add HyperBorder add%
12541    /pdf@ury exch def %
12542    HyperBorder add%
12543    /pdf@urx exch def%
12544    } def%
12545    /H.A {%
12546    H.L %
12547    currentpoint exch pop %
12548    vsize 72 sub exch %
12549    HyperBasePt add add%
12550    /pdf@voff exch def%
12551    } def%

pdf@ury =  $Y_c$  + HyperBorder, pdf@urx =  $X_c$  + HyperBorder
12552    /H.R {%
12553    currentpoint %
12554    HyperBorder add%
12555    /pdf@ury exch def %
12556    HyperBorder add%
12557    /pdf@urx exch def %
12558    currentpoint exch pop vsize 72 sub add%
12559    /pdf@voff exch def%
12560    } def%
12561    }%
12562    }

12563    \def\setpdfinkmargin#1{%
12564    \begingroup
12565    \setlength{\dimen@}{#1}%
12566    \literalps@out{%
12567    /HyperBorder{\strip@pt\dimen@}def%
12568    }%
12569    \endgroup
12570    }

12571    \</vtxpdfmark>

```

## 47.11 Textures

```

12572    \<*textures>
12573    \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.

```

12574 \begingroup
12575 \obeylines %
12576 \gdef\Hy@ps@CR{\noexpand
12577 }%
12578 \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`.

```

12579 \def\literalps@out#1{%
12580 \special{postscript 0 0 transform}%
12581 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
12582 }%
12583 %

```

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.

```

12584 \def\headerps@out#1{%
12585 \special{%
12586 prepostscript TeXdict begin\Hy@ps@CR
12587 #1\Hy@ps@CR
12588 end%
12589 }%
12590 }%
12591 %

```

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.

```

12592 \g@addto@macro\Hy@FirstPageHook{%
12593 \headerps@out{%
12594 /betterpdfmark {%
12595 systemdict begin %
12596 dup /BP eq%
12597 {cleartomark gsave nulldevice []}%
12598 {dup /EP eq%
12599 {cleartomark cleartomark grestore}%
12600 {cleartomark}%
12601 ifelse%
12602 }ifelse %

```

```

12603     end%
12604   }def\Hy@ps@CR
12605   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
12606 }% end of \headerps@out
12607 }% end of \AtBeginShipoutFirst
12608 %
12609 \input{pdfmark.def}%
12610 %
12611 \ifx\@pdfproducer\relax
12612   \def\@pdfproducer{Textures + Distiller}%
12613 \fi
12614 \providecommand*\@pdfborder{0 0 1}
12615 \providecommand*\@pdfborderstyle{}
12616 \providecommand*\@pdfview{XYZ}
12617 \providecommand*\@pdfviewparams{ H.V}
12618 %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx pdf@lly pdf@urx pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff pdf@voff` which are the PDF page offsets. The `Rect` pair are called at the LL and UR corners of a box known to  $\text{\TeX}$ .

```

12619 \Hy@AtBeginDocument{%
12620   \headerps@out{%

```

`Textures` lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

12621   /vsize {\Hy@pageheight} def%
12622   /DvipsToPDF {} def%
12623   /PDFToDvips {} def%
12624   /BPToDvips {} def%
12625   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
12626   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
12627   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
12628   /H.S {%
12629     currentpoint %
12630     HyperBorder add /pdf@lly exch def %
12631     dup DvipsToPDF 72 add /pdf@hoff exch def %
12632     HyperBorder sub /pdf@llx exch def%
12633   } def\Hy@ps@CR
12634   /H.L {%
12635     2 sub %
12636     PDFToDvips /HyperBase exch def %
12637     currentpoint %
12638     HyperBase sub /pdf@ury exch def%
12639     /pdf@urx exch def%
12640   } def\Hy@ps@CR
12641   /H.A {%
12642     H.L %
12643     currentpoint exch pop %

```

```

12644     vsize 72 sub exch DvipsToPDF %
12645     HyperBase sub % baseline skip
12646     sub /pdf@voff exch def%
12647 } def\Hy@ps@CR
12648 /H.R {%
12649     currentpoint %
12650     HyperBorder sub /pdf@ury exch def %
12651     HyperBorder add /pdf@urx exch def %
12652     currentpoint exch pop vsize 72 sub %
12653     exch DvipsToPDF sub /pdf@voff exch def%
12654 } def\Hy@ps@CR
12655 }%
12656 }

12657 \def\setpdfinkmargin#1{%
12658     \begingroup
12659     \setlength{\dimen@}{#1}%
12660     \literalps@out{%
12661         /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12662     }%
12663     \endgroup
12664 }

12665 \Hy@AtBeginDocument{%
12666     \ifHy@colorlinks
12667     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
12668     \fi
12669 }

```

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.

```

12670 \expandafter\let\expandafter\keepPDF@SetupDoc
12671 \csname PDF@SetupDoc\endcsname
12672 \def\PDF@SetupDoc{%
12673     \ifx\@baseurl\@empty
12674     \else
12675     \special{html:<base href="\@baseurl">}%
12676     \fi
12677     \keepPDF@SetupDoc
12678 }

12679 \Hy@WrapperDef\hyper@anchor#1{%
12680     \Hy@SaveLastskip
12681     \Hy@VerboseAnchor{#1}%
12682     \begingroup
12683     \let\protect=\string
12684     \special{html:<a name=%
12685         \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12686     \endgroup
12687     \Hy@activeanchortrue
12688     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink

```

```

12689 \special{html:</a>}%
12690 \Hy@activeanchorfalse
12691 \Hy@RestoreLastskip
12692 }
12693 \Hy@WrapperDef\hyper@anchorstart#1{%
12694 \Hy@SaveLastskip
12695 \Hy@VerboseAnchor{#1}%
12696 \begingroup
12697 \hyper@chars
12698 \special{html:<a name=%
12699 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12700 \endgroup
12701 \Hy@activeanchortrue
12702 }
12703 \def\hyper@anchorend{%
12704 \special{html:</a>}%
12705 \Hy@activeanchorfalse
12706 \Hy@RestoreLastskip
12707 }
12708 \def\@urlltype{url}
12709 \def\hyper@linkstart#1#2{%
12710 \Hy@VerboseLinkStart{#1}{#2}%
12711 \expandafter\Hy@colorlink\csname @#1color\endcsname
12712 \def\Hy@tempa{#1}%
12713 \ifx\Hy@tempa\@urlltype
12714 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12715 \else
12716 \begingroup
12717 \hyper@chars
12718 \special{%
12719 html:<a href=%
12720 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
12721 }%
12722 \endgroup
12723 \fi
12724 }
12725 \def\hyper@linkend{%
12726 \special{html:</a>}%
12727 \Hy@endcolorlink
12728 }
12729 \def\hyper@linkfile#1#2#3{%
12730 \hyper@linkurl{#1}{%
12731 \Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi
12732 }%
12733 }
12734 \def\hyper@linkurl#1#2{%
12735 \leavevmode
12736 \ifHy@raiselinks
12737 \Hy@SaveSpaceFactor
12738 \Hy@SaveSavedSpaceFactor

```

```

12739 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12740 \Hy@RestoreSavedSpaceFactor
12741 \@linkdim\dp\@tempboxa
12742 \lower\@linkdim\hbox{%
12743   \hyper@chars
12744   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
12745 }%
12746 \Hy@colorlink\@urlcolor
12747 \Hy@RestoreSpaceFactor
12748 #1\Hy@xspace@end
12749 \Hy@SaveSpaceFactor
12750 \@linkdim\ht\@tempboxa
12751 \advance\@linkdim by -6.5\p@
12752 \raise\@linkdim\hbox{\special{html:</a>}}%
12753 \Hy@endcolorlink
12754 \Hy@RestoreSpaceFactor
12755 \else
12756 \begingroup
12757   \hyper@chars
12758   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
12759   \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12760   \special{html:</a>}}%
12761   \Hy@endcolorlink
12762 \endgroup
12763 \fi
12764 }

```

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

```

12765 \def\hyper@link#1#2#3{%
12766   \Hy@VerboseLinkStart{#1}{#2}%
12767   \hyper@linkurl{#3}{\#\Hy@HyperDestNameFilter{#2}}%
12768 }
12769 \def\hyper@image#1#2{%
12770   \begingroup
12771     \hyper@chars
12772     \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
12773   \endgroup
12774 }
12775 </textures>

```

## 47.12 dvipsone

```

12776 % \subsection{dvipsone driver}
12777 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12778 % |\special| commands.
12779 (*dvipsone)
12780 \providecommand*\XR@ext{pdf}
12781 \let\Hy@raisedlink\ltx@empty
12782 \providecommand*\@pdfborder{0 0 1}
12783 \providecommand*\@pdfborderstyle{}

```

```

12784 \def\literalps@out#1{\special{ps:#1}}%
12785 \def\headerps@out#1{\special{headertext=#1}}%
12786 \input{pdfmark.def}%
12787 \ifx\@pdfproducer\relax
12788 \def\@pdfproducer{dvipsone + Distiller}%
12789 \fi
12790 \HyInfo@AddonUnsupportedtrue
12791 \def\PDF@FinishDoc{%
12792 \Hy@UseMaketitleInfos
12793 \HyInfo@TrappedUnsupported
12794 \special{PDF: Keywords \@pdfkeywords}%
12795 \special{PDF: Title \@pdftitle}%
12796 \special{PDF: Creator \@pdfcreator}%
12797 \ifx\@pdfcreationdate\@empty
12798 \else
12799 \special{PDF: CreationDate \@pdfcreationdate}%
12800 \fi
12801 \ifx\@pdfmoddate\@empty
12802 \else
12803 \special{PDF: ModDate \@pdfmoddate}%
12804 \fi
12805 \special{PDF: Author \@pdfauthor}%
12806 \ifx\@pdfproducer\relax
12807 \else
12808 \special{PDF: Producer \@pdfproducer}%
12809 \fi
12810 \special{PDF: Subject \@pdfsubject}%
12811 \Hy@DisableOption{pdfauthor}%
12812 \Hy@DisableOption{pdftitle}%
12813 \Hy@DisableOption{pdfsubject}%
12814 \Hy@DisableOption{pdfcreator}%
12815 \Hy@DisableOption{pdfcreationdate}%
12816 \Hy@DisableOption{pdfmoddate}%
12817 \Hy@DisableOption{pdfproducer}%
12818 \Hy@DisableOption{pdfkeywords}%
12819 \Hy@DisableOption{pdftrapped}%
12820 \Hy@DisableOption{pdfinfo}%
12821 }
12822 \def\PDF@SetupDoc{%
12823 \def\Hy@temp{}%
12824 \ifx\@pdfstartpage\@empty
12825 \else
12826 \ifx\@pdfstartview\@empty
12827 \else
12828 \edef\Hy@temp{%
12829 ,Page=\@pdfstartpage
12830 ,View=\@pdfstartview
12831 }%
12832 \fi
12833 \fi

```



```

12834 \edef\Hy@temp{%
12835   \noexpand\pdfmark{%
12836     pdfmark=/DOCVIEW,%
12837     PageMode=/\@pdfpagemode
12838     \Hy@temp
12839   }%
12840 }%
12841 \Hy@temp
12842 \ifx\@pdfpagescrop\@empty
12843 \else
12844   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12845 \fi
12846 \edef\Hy@temp{%
12847   \ifHy@pdftoolbar\else /HideToolbar true\fi
12848   \ifHy@pdfmenubar\else /HideMenubar true\fi
12849   \ifHy@pdfwindowui\else /HideWindowUI true\fi
12850   \ifHy@pdfitwindow /FitWindow true\fi
12851   \ifHy@pdfcenterwindow /CenterWindow true\fi
12852   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12853   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12854   \Hy@UseNameKey{Direction}\@pdfdirection
12855   \Hy@UseNameKey{ViewArea}\@pdfviewarea
12856   \Hy@UseNameKey{ViewClip}\@pdfviewclip
12857   \Hy@UseNameKey{PrintArea}\@pdfprintarea
12858   \Hy@UseNameKey{PrintClip}\@pdfprintclip
12859   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12860   \Hy@UseNameKey{Duplex}\@pdfduplex
12861   \ifx\@pdfpicktraybypdfsize\@empty
12862   \else
12863     /PickTrayByPDFSize \@pdfpicktraybypdfsize
12864   \fi
12865   \ifx\@pdfprintpagerange\@empty
12866   \else
12867     /PrintPageRange[\@pdfprintpagerange]%
12868   \fi
12869   \ifx\@pdfnumcopies\@empty
12870   \else
12871     /NumCopies \@pdfnumcopies
12872   \fi
12873 }%
12874 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12875 \pdfmark{%
12876   pdfmark=/PUT,%
12877   Raw={%
12878     \string{Catalog}\string}<<%
12879     \ifx\Hy@temp\@empty
12880     \else
12881       /ViewerPreferences<<\Hy@temp>>%
12882     \fi
12883     \Hy@UseNameKey{PageLayout}\@pdfpagelayout

```

```

12884      \ifx\@pdflang\relax
12885      \else
12886        /Lang(\@pdflang)%
12887      \fi
12888      \ifx\@baseurl\@empty
12889      \else
12890        /URI<</Base(\Hy@pstringB)>>%
12891      \fi
12892    >>%
12893  }%
12894 }%
12895 }
12896 \providecommand*\@pdfview{XYZ}
12897 \providecommand*\@pdfviewparams{ %
12898   gsave revscl currentpoint grestore %
12899   72 add exch pop null exch null%
12900 }
12901 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx` `pdf@lly` `pdf@urx` `pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff` `pdf@voff` which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to  $\TeX$ .

```

12902 \g@addto@macro\Hy@FirstPageHook{%
12903   \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

12904   /DvipsToPDF { 65781 div } def%
12905   /PDFToDvips { 65781 mul } def%
12906   /BPToDvips{65781 mul}def%
12907   /HyperBorder { 1 PDFToDvips } def%
12908   /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.

```

12909   /BorderArrayPatch{%
12910     [exch{%
12911       dup dup type/integertype eq exch type/realtype eq or%
12912       {BPToDvips}if%
12913     }forall]%
12914   }def%
12915   /H.S {%
12916     currentpoint %
12917     HyperBorder add /pdf@lly exch def %
12918     dup DvipsToPDF 72 add /pdf@hoff exch def %
12919     HyperBorder sub /pdf@llx exch def%
12920   } def%
12921   /H.L {%
12922     2 sub %

```

```

12923   PDFToDvips /HyperBase exch def %
12924   currentpoint %
12925   HyperBase sub /pdf@ury exch def%
12926   /pdf@urx exch def%
12927 } def%
12928 /H.A {%
12929   H.L %
12930   currentpoint exch pop %
12931   HyperBase sub % baseline skip
12932   DvipsToPDF /pdf@voff exch def%
12933 } def%
12934 /H.R {%
12935   currentpoint %
12936   HyperBorder sub /pdf@ury exch def %
12937   HyperBorder add /pdf@urx exch def %
12938   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12939 } def%
12940 }%
12941 }

12942 \def\setpdfinkmargin#1{%
12943   \begingroup
12944     \setlength{\dimen@}{#1}%
12945     \literalpsout{%
12946       /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12947     }%
12948   \endgroup
12949 }

12950 </dvipsone>

```

### 47.13 TeX4ht

```

12951 <*tex4ht>
12952 \providecommand*\XR@ext>{html}
12953 \let\Hy@raisedlink\ltx@empty
12954 \@ifpackageloaded{tex4ht}{%
12955   \Hy@InfoNoLine{tex4ht is already loaded}%
12956 }{%
12957   \RequirePackage[hTeX4ht]{tex4ht}%
12958 }
12959 \hyperlinkfileprefix{}
12960 \let\PDF@FinishDoc\ltx@empty
12961 \def\PDF@SetupDoc{%
12962   \ifx\@baseurl\@empty
12963     \else
12964       \special{t4ht=<base href="\@baseurl">}%
12965     \fi
12966 }
12967 \Hy@WrapperDef\hyper@anchor#1{%
12968   \Hy@SaveLastskip
12969   \Hy@VerboseAnchor{#1}%

```

```

12970 \begingroup
12971 \let\protect=\string
12972 \special{t4ht=<a name=%
12973     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12974 \endgroup
12975 \Hy@activeanchortrue
12976 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12977 \special{t4ht=</a>}%
12978 \Hy@activeanchorfalse
12979 \Hy@RestoreLastskip
12980 }
12981 \Hy@WrapperDef\hyper@anchorstart#1{%
12982 \Hy@SaveLastskip
12983 \Hy@VerboseAnchor{#1}%
12984 \begingroup
12985 \hyper@chars\special{t4ht=<a name=%
12986     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12987 \endgroup
12988 \Hy@activeanchortrue
12989 }
12990 \def\hyper@anchorend{%
12991 \special{t4ht=</a>}%
12992 \Hy@activeanchorfalse
12993 \Hy@RestoreLastskip
12994 }
12995 \def\@urltype{url}
12996 \def\hyper@linkstart#1#2{%
12997 \Hy@VerboseLinkStart{#1}{#2}%
12998 \expandafter\Hy@colorlink\csname @#1color\endcsname
12999 \def\Hy@tempa{#1}%
13000 \ifx\Hy@tempa\@urltype
13001 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
13002 \else
13003 \begingroup
13004 \hyper@chars
13005 \special{t4ht=<a href=%
13006     \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
13007 \endgroup
13008 \fi
13009 }
13010 \def\hyper@linkend{%
13011 \special{t4ht=</a>}%
13012 \Hy@endcolorlink
13013 }
13014 \def\hyper@linkfile#1#2#3{%
13015 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
13016 }
13017 \def\hyper@linkurl#1#2{%
13018 \leavevmode
13019 \ifHy@raiselinks

```

```

13020 \Hy@SaveSpaceFactor
13021 \Hy@SaveSavedSpaceFactor
13022 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
13023 \Hy@RestoreSavedSpaceFactor
13024 \@linkdim\dp\@tempboxa
13025 \lower\@linkdim\hbox{%
13026   \begingroup
13027     \hyper@chars
13028     \special{%
13029       t4ht=<a href=\hyper@quote#2\hyper@quote>%
13030     }%
13031   \endgroup
13032 }%
13033 \Hy@colorlink\@urlcolor
13034 \Hy@RestoreSpaceFactor
13035 #1\Hy@xspace@end
13036 \Hy@SaveSpaceFactor
13037 \Hy@endcolorlink
13038 \@linkdim\ht\@tempboxa
13039 \advance\@linkdim by -6.5\p@
13040 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
13041 \Hy@RestoreSpaceFactor
13042 \else
13043 \begingroup
13044 \hyper@chars
13045 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
13046 \Hy@colorlink\@urlcolor
13047 #1\Hy@xspace@end
13048 \Hy@endcolorlink
13049 \special{t4ht=</a>}%
13050 \endgroup
13051 \fi
13052 }

Poor implementation of \hyper@link without considering #1.
13053 \def\hyper@link#1#2#3{%
13054   \Hy@VerboseLinkStart{#1}{#2}%
13055   \hyper@linkurl{#3}{\#\Hy@HyperDestNameFilter{#2}}%
13056 }
13057 \def\hyper@image#1#2{%
13058   \begingroup
13059     \hyper@chars
13060     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
13061   \endgroup
13062 }
13063 \let\autoref\ref
13064 \ifx \rEFLiNK \UnDef
13065   \def\rEFLiNK #1#2{#2}%
13066 \fi
13067 \let\backref\ltx@gobble

```

```

Fix for tex4ht.
13068 \AtBeginDocument{%
13069   \expandafter
13070   \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
13071   \expandafter\def\csname Make:Label\endcsname#1#2{%
13072     \ifhmode
13073       \Hy@SaveSpaceFactor
13074     \else
13075       \global\Hy@SavedSpaceFactor=1000 %
13076     \fi
13077     \Hy@OrgMakeLabel{#1}{%
13078       \Hy@RestoreSpaceFactor
13079       #2\Hy@xspace@end%
13080     \Hy@SaveSpaceFactor
13081   }%
13082   \Hy@RestoreSpaceFactor
13083 }%
13084 }
13085 </tex4ht>
13086 <*tex4htcfg>
13087 \IfFileExists{\jobname.cfg}{\endinput}{}
13088 \Preamble{html}
13089   \begin{document}%
13090 \EndPreamble
13091 \def\TeX{\TeX}
13092 \def\OMEGA{\Omega}
13093 \def\LaTeX{\LaTeX}
13094 \def\LaTeXe{\LaTeX2e}
13095 \def\eTeX{e-TeX}
13096 \def\MF{Metafont}
13097 \def\MP{MetaPost}
13098 </tex4htcfg>

```

## 48 Driver-specific form support

### 48.1 pdfmarks

```

13099 <*pdfmark>
13100 \long\def\@Form[#1]{%
13101   \g@addto@macro\Hy@FirstPageHook{%
13102     \headerps@out{%
13103 [%
13104   /_objdef{pdfDocEncoding}%
13105   /type/dict%
13106   /OBJ pdfmark%
13107 [%
13108   {pdfDocEncoding}%
13109   <<%
13110   /Type/Encoding%
13111   /Differences[%

```

13112 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%  
13113 /tilde %  
13114 39/quotesingle %  
13115 96/grave %  
13116 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%  
13117 /fraction/guilsinglleft/guilsinglright/minus/perthousand%  
13118 /quotedblbase/quotedblleft/quotedblright/quoteleft%  
13119 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%  
13120 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %  
13121 164/currency %  
13122 166/brokenbar %  
13123 168/dieresis/copyright/ordfeminine %  
13124 172/logicalnot/.notdef/registered/macron/degree/plusminus%  
13125 /twosuperior/threesuperior/acute/mu %  
13126 183/periodcentered/cedilla/onesuperior/ordmasculine %  
13127 188/onequarter/onehalf/threequarters %  
13128 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%  
13129 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%  
13130 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%  
13131 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%  
13132 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%  
13133 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%  
13134 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%  
13135 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%  
13136 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%  
13137 /ucircumflex/udieresis/yacute/thorn/ydieresis%  
13138 ]%  
13139 >>%  
13140 /PUT pdfmark%  
13141 [%  
13142 /\_objdef{ZaDb}%  
13143 /type/dict%  
13144 /OBJ pdfmark%  
13145 [%  
13146 {ZaDb}%  
13147 <<%  
13148 /Type/Font%  
13149 /Subtype/Type1%  
13150 /Name/ZaDb%  
13151 /BaseFont/ZapfDingbats%  
13152 >>%  
13153 /PUT pdfmark%  
13154 [%  
13155 /\_objdef{Helv}%  
13156 /type/dict%  
13157 /OBJ pdfmark%  
13158 [%  
13159 {Helv}%  
13160 <<%  
13161 /Type/Font%

```

13162 /Subtype/Type1%
13163 /Name/Helv%
13164 /BaseFont/Helvetica%
13165 /Encoding{pdfDocEncoding}%
13166 >>%
13167 /PUT pdfmark%
13168 [%
13169 /_objdef{aform}%
13170 /type/dict%
13171 /OBJ pdfmark%
13172 [%
13173 /_objdef{afields}%
13174 /type/array%
13175 /OBJ pdfmark%
13176 [%
13177 /_objdef{corder}%
13178 /type/array%
13179 /OBJ pdfmark%
13180 {%
13181 [%
13182 /BBox[0 0 100 100]%
13183 /_objdef{Check}%
13184 /BP pdfmark %
13185 1 0 0 setrgbcolor%
13186 /ZapfDingbats 80 selectfont %
13187 20 20 moveto%
13188 (4)show%
13189 [/EP pdfmark%
13190 [%
13191 /BBox[0 0 100 100]%
13192 /_objdef{Cross}%
13193 /BP pdfmark %
13194 1 0 0 setrgbcolor%
13195 /ZapfDingbats 80 selectfont %
13196 20 20 moveto%
13197 (8)show%
13198 [/EP pdfmark%
13199 [%
13200 /BBox[0 0 250 100]%
13201 /_objdef{Submit}%
13202 /BP pdfmark %
13203 0.6 setgray %
13204 0 0 250 100 rectfill %
13205 1 setgray %
13206 2 2 moveto %
13207 2 98 lineto %
13208 248 98 lineto %
13209 246 96 lineto %
13210 4 96 lineto %
13211 4 4 lineto %

```



```

13212 fill %
13213 0.34 setgray %
13214 248 98 moveto %
13215 248 2 lineto %
13216 2 2 lineto %
13217 4 4 lineto %
13218 246 4 lineto %
13219 246 96 lineto %
13220 fill%
13221 /Helvetica 76 selectfont %
13222 0 setgray %
13223 8 22.5 moveto%
13224 (Submit)show%
13225 [/EP pdfmark%
13226 [%
13227 /BBox[0 0 250 100]%
13228 /_objdef{SubmitP}%
13229 /BP pdfmark %
13230 0.6 setgray %
13231 0 0 250 100 rectfill %
13232 0.34 setgray %
13233 2 2 moveto %
13234 2 98 lineto %
13235 248 98 lineto %
13236 246 96 lineto %
13237 4 96 lineto %
13238 4 4 lineto %
13239 fill %
13240 1 setgray %
13241 248 98 moveto %
13242 248 2 lineto %
13243 2 2 lineto %
13244 4 4 lineto %
13245 246 4 lineto %
13246 246 96 lineto %
13247 fill%
13248 /Helvetica 76 selectfont %
13249 0 setgray %
13250 10 20.5 moveto%
13251 (Submit)show%
13252 [/EP pdfmark%
13253 } ?pdfmark%
13254 [%
13255 {aform}%
13256 <<%
13257 /Fields{afields}%
13258 /DR<<%
13259 /Font<<%
13260 /ZaDb{ZaDb}%
13261 /Helv{Helv}%

```

```

13262     >>%
13263 >>%
13264 /DA(/Helv 10 Tf 0 g)%
13265 /CO{corder}%
13266 \ifHy@pdfa
13267 \else
13268 \ifHyField@NeedAppearances
13269 /NeedAppearances true%
13270 \fi
13271 \fi
13272 >>%
13273 /PUT pdfmark%
13274 [%
13275 {Catalog}%
13276 <<%
13277 /AcroForm{aform}%
13278 >>%
13279 /PUT pdfmark%
13280 }}%
13281 \kvsetkeys{Form}{#1}%
13282 }
13283 \let\@endForm\ltx@empty
13284 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13285 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
13286 }

13287 \newcount\HyField@AnnotCount
13288 \HyField@AnnotCount=\z@
13289 \def\HyField@AdvanceAnnotCount{%
13290 \global\advance\HyField@AnnotCount\@ne
13291 }
13292 \def\HyField@TheAnnotCount{%
13293 \the\HyField@AnnotCount
13294 }

13295 \edef\Fld@pageobjref{/P\string{ThisPage\string}}
13296 \def\HyField@AddToFields#1{%
13297 \pdfmark{%
13298 pdfmark=/APPEND,%
13299 Raw={%
13300 \string{afields\string}%
13301 \string{#1\HyField@TheAnnotCount\string}%
13302 }%
13303 }%
13304 \ifx\Fld@calculate@code\ltx@empty
13305 \else
13306 \pdfmark{%
13307 pdfmark=/APPEND,%
13308 Raw={%
13309 \string{corder\string}%
13310 \string{#1\HyField@TheAnnotCount\string}%

```

```

13311    }%
13312    }%
13313  \fi
13314 }

13315 \def\@TextField[#1]#2{% parameters, label
13316   \def\Fld@name{#2}%
13317   \let\Fld@default\ltx@empty
13318   \let\Fld@value\@empty
13319   \def\Fld@width{\DefaultWidthofText}%
13320   \def\Fld@height{%
13321     \ifFld@multiline
13322       \DefaultHeightofTextMultiline
13323     \else
13324       \DefaultHeightofText
13325     \fi
13326   }%
13327   \begingroup
13328     \expandafter\HyField@SetKeys\expandafter{%
13329       \DefaultOptionsofText,#1%
13330     }%
13331     \HyField@FlagsText
13332     \ifFld@hidden\def\Fld@width{1sp}\fi
13333     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13334     \HyField@AdvanceAnnotCount
13335     \LayoutTextField{#2}{%
13336       \leavevmode
13337       \Hy@escapeform\PDFForm@Text
13338       \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
13339         pdfmark=/ANN,%
13340         objdef=text\HyField@TheAnnotCount,%
13341         Raw={\PDFForm@Text}%
13342       }%
13343     }%
13344     \HyField@AddToFields{text}%
13345   \endgroup
13346 }

13347 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13348   \def\Fld@name{#2}%
13349   \let\Fld@default\relax
13350   \let\Fld@value\relax
13351   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13352   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13353   \begingroup
13354     \Fld@menulength=0 %
13355     \@tempdima\z@
13356     \@for\@curropt:=#3\do{%
13357       \expandafter\Fld@checkequals\@curropt==\%
13358       \Hy@StepCount\Fld@menulength
13359       \settowidth{\@tempdimb}{\@currDisplay}%

```

```

13360 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13361 }%
13362 \advance\@tempdima by 15\p@
13363 \begingroup
13364 \HyField@SetKeys{#1}%
13365 \edef\x{\endgroup
13366 \noexpand\expandafter
13367 \noexpand\HyField@SetKeys
13368 \noexpand\expandafter{%
13369 \expandafter\noexpand\cname DefaultOptionsof%
13370 \ifFld@radio
13371 Radio%
13372 \else
13373 \ifFld@combo
13374 \ifFld@popdown
13375 PopdownBox%
13376 \else
13377 ComboBox%
13378 \fi
13379 \else
13380 ListBox%
13381 \fi
13382 \fi
13383 \endcsname
13384 }%
13385 }\x
13386 \HyField@SetKeys{#1}%
13387 \ifFld@hidden\def\Fld@width{1sp}\fi
13388 \ifx\Fld@value\relax
13389 \let\Fld@value\Fld@default
13390 \fi
13391 \LayoutChoiceField{#2}{%
13392 \ifFld@radio
13393 \HyField@FlagsRadioButton
13394 \@@Radio{#3}%
13395 \else
13396 \begingroup
13397 \HyField@FlagsChoice
13398 \ifdim\Fld@width<\@tempdima
13399 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13400 \edef\Fld@width{\the\@tempdima}%
13401 \fi
13402 \ifFld@combo
13403 \else
13404 \@tempdima=\the\Fld@menulength\Fld@charsize
13405 \advance\@tempdima by \Fld@borderwidth bp %
13406 \advance\@tempdima by \Fld@borderwidth bp %
13407 \edef\Fld@height{\the\@tempdima}%
13408 \fi
13409 \@@Listbox{#3}%

```

```

13410     \endgroup
13411     \fi
13412 }%
13413 \endgroup
13414 }
13415 \def\@@Radio#1{%
13416   \Fld@listcount=0 %
13417   \EdefEscapeName\Fld@default{\Fld@default}%
13418   \@for\@curropt:=#1\do{%
13419     \expandafter\Fld@checkequals\@curropt==\\%
13420     \EdefEscapeName\@currValue{\@currValue}%
13421     \Hy@StepCount\Fld@listcount
13422     \@currDisplay\space
13423     \Hy@escapeform\PDFForm@Radio
13424     \ifnum\Fld@listcount=1 %
13425       \HyField@AdvanceAnnotCount
13426     \fi
13427     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
13428       pdfmark=/ANN,%
13429       objdef=\ifnum\Fld@listcount=1 radio\HyField@TheAnnotCount\fi,%
13430       Raw={%
13431         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
13432       }%
13433     } % deliberate space between radio buttons
13434     \ifnum\Fld@listcount=1 %
13435       \HyField@AddToFields{radio}%
13436     \fi
13437   }%
13438 }
13439 \newcount\Fld@listcount
13440 \def\@@Listbox#1{%
13441   \HyField@PDFChoices{#1}%
13442   \Hy@escapeform\PDFForm@List
13443   \HyField@AdvanceAnnotCount
13444   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
13445     pdfmark=/ANN,%
13446     objdef=list\HyField@TheAnnotCount,%
13447     Raw={\PDFForm@List}%
13448   }%
13449   \HyField@AddToFields{list}%
13450 }
13451 \def\@PushButton[#1]#2{% parameters, label
13452   \def\Fld@name{#2}%
13453   \begingroup
13454     \expandafter\HyField@SetKeys\expandafter{%
13455       \DefaultOptionsofPushButton,#1%
13456     }%
13457     \ifHy@pdfa
13458       \Hy@Error{%
13459         PDF/A: Push button with JavaScript is prohibited%

```

```

13460 } \@ehc
13461 \LayoutPushButtonField{%
13462 \leavevmode
13463 \MakeButtonField{#2}%
13464 }%
13465 \else
13466 \HyField@FlagsPushButton
13467 \ifFld@hidden\def\Fld@width{1sp}\fi
13468 \HyField@AdvanceAnnotCount
13469 \LayoutPushButtonField{%
13470 \leavevmode
13471 \Hy@escapeform\PDFForm@Push
13472 \pdfmark[\MakeButtonField{#2}]{%
13473 pdfmark=/ANN,%
13474 objdef=push\HyField@TheAnnotCount,%
13475 Raw={\PDFForm@Push}%
13476 }%
13477 }%
13478 \HyField@AddToFields{push}%
13479 \fi
13480 \endgroup
13481 }
13482 \def\@Submit[#1]#2{%
13483 \def\Fld@width{\DefaultWidthofSubmit}%
13484 \def\Fld@height{\DefaultHeightofSubmit}%
13485 \begingroup
13486 \expandafter\HyField@SetKeys\expandafter{%
13487 \DefaultOptionsofSubmit,#1%
13488 }%
13489 \HyField@FlagsPushButton
13490 \HyField@FlagsSubmit
13491 \ifFld@hidden\def\Fld@width{1sp}\fi
13492 \Hy@escapeform\PDFForm@Submit
13493 \HyField@AdvanceAnnotCount
13494 \pdfmark[\MakeButtonField{#2}]{%
13495 pdfmark=/ANN,%
13496 objdef=submit\HyField@TheAnnotCount,%
13497 Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}%
13498 }%
13499 \HyField@AddToFields{submit}%
13500 \endgroup
13501 }
13502 \def\@Reset[#1]#2{%
13503 \def\Fld@width{\DefaultWidthofReset}%
13504 \def\Fld@height{\DefaultHeightofReset}%
13505 \begingroup
13506 \expandafter\HyField@SetKeys\expandafter{%
13507 \DefaultOptionsofReset,#1%
13508 }%
13509 \leavevmode

```

```

13510 \ifHy@pdfa
13511   \Hy@Error{%
13512     PDF/A: Reset action is prohibited%
13513   } \@ehc
13514   \MakeButtonField{#2}%
13515 \else
13516   \HyField@FlagsPushButton
13517   \ifFld@hidden\def\Fld@width{1sp}\fi
13518   \Hy@escapeform\PDFForm@Reset
13519   \HyField@AdvanceAnnotCount
13520   \pdfmark[\MakeButtonField{#2}]{%
13521     pdfmark=/ANN,%
13522     objdef=reset\HyField@TheAnnotCount,%
13523     Raw={\PDFForm@Reset}%
13524   }%
13525   \HyField@AddToFields{reset}%
13526 \fi
13527 \endgroup
13528 }%
13529 \def\@CheckBox[#1]#2{% parameters, label
13530   \def\Fld@name{#2}%
13531   \def\Fld@default{0}%
13532   \begingroup
13533     \def\Fld@width{\DefaultWidthofCheckBox}%
13534     \def\Fld@height{\DefaultHeightofCheckBox}%
13535     \expandafter\HyField@SetKeys\expandafter{%
13536       \DefaultOptionsofCheckBox,#1%
13537     }%
13538     \HyField@FlagsCheckBox
13539     \ifFld@hidden\def\Fld@width{1sp}\fi
13540     \HyField@AdvanceAnnotCount
13541     \LayoutCheckField{#2}{%
13542       \leavevmode
13543       \Hy@escapeform\PDFForm@Check
13544       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
13545         pdfmark=/ANN,%
13546         objdef=check\HyField@TheAnnotCount,%
13547         Raw={\PDFForm@Check}%
13548       }%
13549     }%
13550     \HyField@AddToFields{check}%
13551   \endgroup
13552 }
13553 \</pdfmark>

```

## 48.2 HyperTeX

```

13554 \<*hypertext>
13555 \def\@Form[#1]{%
13556   \Hy@Message{Sorry, HyperTeX does not support FORMs}%

```

```

13557 }
13558 \let\@endForm\ltx@empty
13559 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13560 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
13561 }
13562 \def\@TextField[#1]#2{% parameters, label
13563 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
13564 }
13565 \def\@CheckBox[#1]#2{% parameters, label
13566 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
13567 }
13568 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13569 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
13570 }
13571 \def\@PushButton[#1]#2{% parameters, label
13572 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
13573 }
13574 \def\@Reset[#1]#2{%
13575 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13576 }
13577 \def\@Submit[#1]#2{%
13578 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13579 }
13580 </hypertex>

```

### 48.3 TeX4ht

```

13581 <*tex4ht>
13582 \def\@Form[#1]{%
13583 \kvsetkeys{Form}{#1}%
13584 \HCode{<form action="\Form@action" method="\Form@method">}%
13585 }
13586 \def\@endForm{\HCode{</form>}}
13587 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13588 \Hy@Message{Sorry, TeX4ht does not support gauges}%
13589 }
13590 \def\@TextField[#1]#2{% parameters, label
13591 \let\Hy@reserved@a\@empty
13592 \def\Fld@name{#2}%
13593 \let\Fld@default\ltx@empty
13594 \bgroup
13595 \Field@toks={ }%
13596 \kvsetkeys{Field}{#1}%
13597 \HCode{<label for="\Fld@name">#2</label>}%
13598 \ifFld@password
13599 \@@PasswordField
13600 \else
13601 \@@TextField
13602 \fi
13603 \egroup

```



```

13604 }
13605 \def\@@PasswordField{%
13606   \HCode{%
13607     <input type="password" %
13608     id="\Fld@name" %
13609     name="\Fld@name" %
13610     \ifFld@hidden type="hidden" \fi
13611     value="\Fld@default" %
13612     \the\Field@toks
13613     >%
13614   }%
13615 }
13616 \def\@@TextField{%
13617   \ifFld@multiline
13618     \HCode{<textarea %
13619       \ifFld@readonly readonly \fi
13620       id="\Fld@name" %
13621       name="\Fld@name" %
13622       \ifFld@hidden type="hidden" \fi
13623       \the\Field@toks>%
13624     }%
13625     \Fld@default
13626     \HCode{</textarea>}%
13627   \else
13628     \HCode{<input type="text" %
13629       \ifFld@readonly readonly \fi
13630       id="\Fld@name" %
13631       name="\Fld@name" %
13632       \ifFld@hidden type="hidden" \fi
13633       value="\Fld@default" %
13634       \the\Field@toks>%
13635     }%
13636   \fi
13637 }
13638 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13639   \def\Fld@name{#2}%
13640   \let\Fld@default\ltx@empty
13641   \let\Hy@reserved@a\relax
13642   \begingroup
13643     \expandafter\Fld@findlength#3\\%
13644     \Field@toks={ }%
13645     \kvsetkeys{Field}{#1}%
13646     #2%
13647     \ifFld@radio
13648       \expandafter\@@Radio#3\\%
13649     \else
13650       \expandafter\@@Menu#3\\%
13651     \fi
13652   \endgroup
13653 }

```

```

13654 \def\Fld@findlength#1\\{%
13655   \Fld@menulength=0 %
13656   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
13657 }
13658 \def\@@Menu#1\\{%
13659   \HCode{<select size="\the\Fld@menulength" %
13660     name="\Fld@name" %
13661     \the\Field@toks>%
13662   }%
13663   \@for\@curropt:=#1\do{%
13664     \expandafter\Fld@checkequals\@curropt==\\%
13665     \HCode{<option %
13666       \ifx\@curropt\Fld@default selected \fi
13667       value="\@currValue">\@currDisplay</option>%
13668     }%
13669   }%
13670   \HCode{</select>}%
13671 }
13672 \def\@@Radio#1\\{%
13673   \@for\@curropt:=#1\do{%
13674     \expandafter\Fld@checkequals\@curropt==\\%
13675     \HCode{<input type="radio" %
13676       \ifx\@curropt\Fld@default checked \fi
13677       name="\Fld@name" %
13678       value="\@currValue" %
13679       \the\Field@toks>%
13680     }%
13681     \@currDisplay
13682   }%
13683 }
13684 \def\@PushButton[#1]#2{% parameters, label
13685   \def\Fld@name{#2}%
13686   \bgroup
13687   \Field@toks={ }%
13688   \kvsetkeys{Field}{#1}%
13689   \HCode{<input type="button" %
13690     name="\Fld@name" %
13691     value="#2" %
13692     \the\Field@toks>%
13693   }%
13694   \HCode{</button>}%
13695   \egroup
13696 }
13697 \def\@Submit[#1]#2{%
13698   \HCode{<button type="submit">#2</button>}%
13699 }
13700 \def\@Reset[#1]#2{%
13701   \HCode{<button type="reset">#2</button>}%
13702 }
13703 \def\@CheckBox[#1]#2{% parameters, label

```

```

13704 \let\Hy@reserved@a\@empty
13705 \def\Fld@name{#2}%
13706 \def\Fld@default{0}%
13707 \bgroup
13708 \Field@toks={ }%
13709 \kvsetkeys{Field}{#1}%
13710 \HCode{<input type="checkbox" %
13711 \ifFld@checked checked \fi
13712 \ifFld@disabled disabled \fi
13713 \ifFld@readonly readonly \fi
13714 name="\Fld@name" %
13715 \ifFld@hidden type="hidden" \fi
13716 value="\Fld@default" %
13717 \the\Field@toks>%
13718 #2%
13719 }%
13720 \egroup
13721 }
13722 </tex4ht>

```

## 48.4 pdfTeX

```

13723 <*pdfTeX>
13724 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13725 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
13726 }
13727 \def\MakeFieldObject#1#2{\sbox0{#1}%
13728 \immediate\pdfxform0 %
13729 \expandafter\edef\csname #2Object\endcsname{%
13730 \the\pdfastxform\space 0 R%
13731 }%
13732 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}}%
13733 }%
13734 \let\HyField@afields\ltx@empty
13735 \let\HyField@cofields\ltx@empty
13736 \begingroup\expandafter\expandafter\expandafter\endgroup
13737 \expandafter\ifx\csname pdfastlink\endcsname\relax
13738 \let\HyField@AddToFields\relax
13739 \PackageInfo{hyperref}{%
13740 You need pdfTeX 1.40.0 for setting the /Fields entry.%
13741 \MessageBreak
13742 Adobe Reader/Acrobat accepts an empty /Field array,%
13743 \MessageBreak
13744 but other PDF viewers might complain%
13745 }%
13746 \else
13747 \let\HyField@AuxAddToFields\ltx@gobble
13748 \let\HyField@AuxAddToCoFields\ltx@gobbletwo
13749 \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.

```

13750 \def\HyField@ABD@AuxAddToCoFields#1#2{%
13751   \begingroup
13752   \Hy@safe@activestrue
13753   \let\ltx@secondoftwo\relax
13754   \ifx\HyField@cofields\ltx@empty
13755     \xdef\HyField@cofields{%
13756       \ltx@secondoftwo{#1}{ #2 0 R}%
13757     }%
13758   \else
13759     \let\ltx@secondoftwo\relax
13760     \def\HyField@AddCoField##1##2##3{%
13761       \ifx##1\ltx@empty
13762         \ltx@secondoftwo{#1}{ #2 0 R}%
13763         \expandafter\ltx@gobble
13764       \else
13765         \ifnum\pdfstrcmp{##2}{#1}>\ltx@zero
13766           \ltx@secondoftwo{#1}{ #2 0 R}%
13767           \ltx@secondoftwo{##2}{##3}%
13768           \expandafter\expandafter\expandafter\ltx@gobble
13769         \else
13770           \ltx@secondoftwo{##2}{##3}%
13771         \fi
13772       \fi
13773       \HyField@AddCoField
13774     }%
13775     \xdef\HyField@cofields{%
13776       \expandafter\HyField@AddCoField
13777       \HyField@cofields\ltx@empty\ltx@empty\ltx@empty
13778     }%
13779   \fi
13780 \endgroup
13781 }%
13782 \Hy@AtBeginDocument{%
13783   \if@files
13784     \immediate\write\@mainaux{%
13785       \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13786     }%
13787     \immediate\write\@mainaux{%
13788       \string\providecommand\string\HyField@AuxAddToCoFields[2]{}%
13789     }%
13790   \fi
13791   \let\HyField@AfterAuxOpen\@firstofone
13792   \def\HyField@AuxAddToFields#1{%
13793     \xdef\HyField@afields{%
13794       \ifx\HyField@afields\@empty
13795       \else
13796         \HyField@afields
13797         \space
13798       \fi

```

```

13799      #1 0 R%
13800    }%
13801  }%
13802  \let\HyField@AuxAddToCoFields\HyField@ABD@AuxAddToCoFields
13803 }%
13804 \def\HyField@AddToFields{%
13805   \expandafter\HyField@@AddToFields\expandafter{%
13806     \the\pdfastlink
13807   }%
13808   \ifx\Fld@calculate@code\ltx@empty
13809   \else
13810     \begingroup
13811     \Hy@safe@activetrue
13812     \edef\Hy@temp{%
13813       \endgroup
13814       \if@filesw
13815         \write\@mainaux{%
13816           \string\HyField@AuxAddToCoFields{%
13817             \Fld@calculate@sortkey
13818           }{%
13819             \the\pdfastlink
13820           }%
13821         }%
13822       \fi
13823     }%
13824     \Hy@temp
13825   \fi
13826 }%
13827 \def\HyField@@AddToFields#1{%
13828   \HyField@AfterAuxOpen{%
13829     \if@filesw
13830       \write\@mainaux{%
13831         \string\HyField@AuxAddToFields{#1}%
13832       }%
13833     \fi
13834   }%
13835 }%
13836 \fi
13837 \def\@Form[#1]{%
13838   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13839   \kvsetkeys{Form}{#1}%
13840   \pdf@ifdraftmode{}{%
13841     \Hy@FormObjects
13842     \ifnum\pdfTeXversion>13 %
13843       \pdfrefobj\OBJ@pdfdocencoding
13844       \pdfrefobj\OBJ@ZaDb
13845       \pdfrefobj\OBJ@Helv
13846     \fi
13847     \AtVeryEndDocument{%
13848       \immediate\pdfobj{%

```

```

13849 <<%
13850 /Fields[\HyField@afields]%
13851 \ifx\HyField@cofields\ltx@empty
13852 \else
13853 /CO[\romannumeral-'\Q\HyField@cofields]%
13854 \fi
13855 /DR<<%
13856 /Font<<%
13857 /ZaDb \OBJ@ZaDb\space 0 R%
13858 /Helv \OBJ@Helv\space 0 R%
13859 >>%
13860 >>%
13861 /DA(/Helv 10 Tf 0 g)%
13862 \ifHy@pdfa
13863 \else
13864 \ifHyField@NeedAppearances
13865 /NeedAppearances true%
13866 \fi
13867 \fi
13868 >>%
13869 }%
13870 \edef\OBJ@acroform{\the\pdfastobj}%
13871 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13872 }%
13873 }%
13874 \MakeFieldObject{%
Same as \ding{123} of package pifont.
13875 \begingroup
13876 \fontfamily{pzd}%
13877 \fontencoding{U}%
13878 \fontseries{m}%
13879 \fontshape{n}%
13880 \selectfont
13881 \char123 %
13882 \endgroup
13883 }{Ding}%
13884 \MakeFieldObject{%
13885 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13886 }{Submit}%
13887 \MakeFieldObject{%
13888 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13889 }{SubmitP}%
13890 }
13891 \let\@endForm\ltx@empty
13892 \let\HyAnn@AbsPageLabel\ltx@empty
13893 \let\Fld@pageobjref\ltx@empty
13894 \ltx@ifundefined{pdfpageref}{%
13895 }{%
13896 \ltx@ifpackageloaded{zref-abspage}{%

```

```

13897 \newcount\HyAnn@Count
13898 \HyAnn@Count=\ltx@zero
13899 \def\HyAnn@AbsPageLabel{%
13900   \global\advance\HyAnn@Count by\ltx@one
13901   \zref@labelbyprops{HyAnn@\the\HyAnn@Count}{abspage}%
13902   \zref@refused{HyAnn@\the\HyAnn@Count}%
13903 }%
13904 \def\Fld@pageobjref{%
13905   \zref@ifrefundefined{HyAnn@\the\HyAnn@Count}{%
13906   }{%
13907     \zref@ifrefcontainsprop{HyAnn@\the\HyAnn@Count}{abspage}{%
13908       /P \pdfpageref
13909       \zref@extractdefault{HyAnn@\the\HyAnn@Count}{abspage}{1} %
13910       \space 0 R%
13911     }{%
13912     }%
13913   }%
13914 }%
13915 }{%
13916 }%
13917 }

13918 \def\@TextField[#1]#2{% parameters, label
13919 \def\Fld@name{#2}%
13920 \let\Fld@default\ltx@empty
13921 \let\Fld@value\@empty
13922 \def\Fld@width{\DefaultWidthofText}%
13923 \def\Fld@height{%
13924   \ifFld@multiline
13925     \DefaultHeightofTextMultiline
13926   \else
13927     \DefaultHeightofText
13928   \fi
13929 }%
13930 \begingroup
13931 \expandafter\HyField@SetKeys\expandafter{%
13932   \DefaultOptionsofText,#1%
13933 }%
13934 \PDFForm@Name
13935 \HyField@FlagsText
13936 \ifFld@hidden\def\Fld@width{1sp}\fi
13937 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13938 \LayoutTextField{#2}{%
13939   \leavevmode
13940   \HyAnn@AbsPageLabel
13941   \Hy@escapeform\PDFForm@Text
13942   \pdfstartlink user {\PDFForm@Text}\relax
13943   \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13944   \HyField@AddToFields
13945 }%

```

```

13946 \endgroup
13947 }
13948 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13949 \def\Fld@name{#2}%
13950 \let\Fld@default\relax
13951 \let\Fld@value\relax
13952 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13953 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13954 \begingroup
13955 \Fld@menulength=0 %
13956 \@tempdima\z@
13957 \@for\@curropt:=#3\do{%
13958 \expandafter\Fld@checkequals\@curropt==\\%
13959 \Hy@StepCount\Fld@menulength
13960 \settowidth{\@tempdimb}{\@currDisplay}%
13961 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13962 }%
13963 \advance\@tempdima by 15\p@
13964 \begingroup
13965 \HyField@SetKeys{#1}%
13966 \edef\x{\endgroup
13967 \noexpand\expandafter
13968 \noexpand\HyField@SetKeys
13969 \noexpand\expandafter{%
13970 \expandafter\noexpand\csname DefaultOptionsof%
13971 \ifFld@radio
13972 Radio%
13973 \else
13974 \ifFld@combo
13975 \ifFld@popdown
13976 PopdownBox%
13977 \else
13978 ComboBox%
13979 \fi
13980 \else
13981 ListBox%
13982 \fi
13983 \fi
13984 \endcsname
13985 }%
13986 }\x
13987 \HyField@SetKeys{#1}%
13988 \PDFForm@Name
13989 \ifFld@hidden\def\Fld@width{1sp}\fi
13990 \ifx\Fld@value\relax
13991 \let\Fld@value\Fld@default
13992 \fi
13993 \LayoutChoiceField{#2}{%
13994 \ifFld@radio
13995 \HyField@FlagsRadioButton

```



```

13996      \@@Radio{#3}%
13997      \else
13998      \begingroup
13999      \HyField@FlagsChoice
14000      \ifdim\Fld@width<\@tempdima
14001      \ifdim\@tempdima<1cm\@tempdima1cm\fi
14002      \edef\Fld@width{\the\@tempdima}%
14003      \fi
14004      \ifFld@combo
14005      \else
14006      \@tempdima=\the\Fld@menulength\Fld@charsize
14007      \advance\@tempdima by \Fld@borderwidth bp %
14008      \advance\@tempdima by \Fld@borderwidth bp %
14009      \edef\Fld@height{\the\@tempdima}%
14010      \fi
14011      \@@ListBox{#3}%
14012      \endgroup
14013      \fi
14014      }%
14015      \endgroup
14016      }
14017      \def\@@Radio#1{%
14018      \Fld@listcount=0 %
14019      \EdefEscapeName\Fld@default{\Fld@default}%
14020      \@for\@curropt:=#1\do{%
14021      \expandafter\Fld@checkequals\@curropt==\\%
14022      \EdefEscapeName\@currValue{\@currValue}%
14023      \Hy@StepCount\Fld@listcount
14024      \@currDisplay\space
14025      \leavevmode
14026      \HyAnn@AbsPageLabel
14027      \Hy@escapeform\PDFForm@Radio
14028      \pdfstartlink user {%
14029      \PDFForm@Radio
14030      /AP<<%
14031      /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.

```

14032      /\@currValue\space \DingObject
14033      >>%
14034      >>%
14035      }%
14036      \relax
14037      \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
14038      \ifnum\Fld@listcount=1 %
14039      \HyField@AddToFields
14040      \fi
14041      \space % deliberate space between radio buttons

```

```

14042 }%
14043 }
14044 \newcount\Fld@listcount
14045 \def\@@ListBox#1{%
14046   \HyField@PDFChoices{#1}%
14047   \leavevmode
14048   \HyAnn@AbsPageLabel
14049   \Hy@escapeform\PDFForm@List
14050   \pdfstartlink user {\PDFForm@List}\relax
14051   \MakeChoiceField{\Fld@width}{\Fld@height}%
14052   \pdfendlink
14053   \HyField@AddToFields
14054 }
14055 \def\@PushButton[#1]#2{% parameters, label
14056   \def\Fld@name{#2}%
14057   \begingroup
14058     \expandafter\HyField@SetKeys\expandafter{%
14059       \DefaultOptionsofPushButton,#1%
14060     }%
14061     \PDFForm@Name
14062     \ifHy@pdfa
14063       \Hy@Error{%
14064         PDF/A: Push button with JavaScript is prohibited%
14065       }\@ehc
14066       \LayoutPushButtonField{%
14067         \leavevmode
14068         \MakeButtonField{#2}%
14069       }%
14070     \else
14071       \HyField@FlagsPushButton
14072       \ifFld@hidden\def\Fld@width{1sp}\fi
14073       \LayoutPushButtonField{%
14074         \leavevmode
14075         \HyAnn@AbsPageLabel
14076         \Hy@escapeform\PDFForm@Push
14077         \pdfstartlink user {\PDFForm@Push}\relax
14078         \MakeButtonField{#2}%
14079         \pdfendlink
14080         \HyField@AddToFields
14081       }%
14082     \fi
14083   \endgroup
14084 }
14085 \def\@Submit[#1]#2{%
14086   \def\Fld@width{\DefaultWidthofSubmit}%
14087   \def\Fld@height{\DefaultHeightofSubmit}%
14088   \begingroup
14089     \expandafter\HyField@SetKeys\expandafter{%
14090       \DefaultOptionsofSubmit,#1%
14091     }%

```

```

14092 \HyField@FlagsPushButton
14093 \HyField@FlagsSubmit
14094 \ifFld@hidden\def\Fld@width{1sp}\fi
14095 \leavevmode
14096 \HyAnn@AbsPageLabel
14097 \Hy@escapeform\PDFForm@Submit
14098 \pdfstartlink user {%
14099   \PDFForm@Submit
14100   /AP<</N \SubmitObject/D \SubmitPObject>>%
14101 }%
14102 \relax
14103 \MakeButtonField{#2}%
14104 \pdfendlink
14105 \HyField@AddToFields
14106 \endgroup
14107 }
14108 \def\@Reset[#1]#2{%
14109   \def\Fld@width{\DefaultWidthofReset}%
14110   \def\Fld@height{\DefaultHeightofReset}%
14111   \begingroup
14112     \expandafter\HyField@SetKeys\expandafter{%
14113       \DefaultOptionsofReset,#1%
14114     }%
14115     \leavevmode
14116     \ifHy@pdfa
14117       \Hy@Error{%
14118         PDF/A: Reset action is prohibited%
14119       }\@ehc
14120       \MakeButtonField{#2}%
14121     \else
14122       \HyField@FlagsPushButton
14123       \ifFld@hidden\def\Fld@width{1sp}\fi
14124       \HyAnn@AbsPageLabel
14125       \Hy@escapeform\PDFForm@Reset
14126       \pdfstartlink user {\PDFForm@Reset}\relax
14127       \MakeButtonField{#2}%
14128       \pdfendlink
14129       \HyField@AddToFields
14130     \fi
14131   \endgroup
14132 }
14133 \def\@CheckBox[#1]#2{% parameters, label
14134   \def\Fld@name{#2}%
14135   \def\Fld@default{0}%
14136   \begingroup
14137     \def\Fld@width{\DefaultWidthofCheckBox}%
14138     \def\Fld@height{\DefaultHeightofCheckBox}%
14139     \expandafter\HyField@SetKeys\expandafter{%
14140       \DefaultOptionsofCheckBox,#1%
14141     }%

```

```

14142 \PDFForm@Name
14143 \HyField@FlagsCheckBox
14144 \ifFld@hidden\def\Fld@width{1sp}\fi
14145 \LayoutCheckField{#2}{%
14146 \leavevmode
14147 \HyAnn@AbsPageLabel
14148 \Hy@escapeform\PDFForm@Check
14149 \pdfstartlink user {\PDFForm@Check}\relax
14150 \MakeCheckField{\Fld@width}{\Fld@height}%
14151 \pdfendlink
14152 \HyField@AddToFields
14153 }%
14154 \endgroup
14155 }
14156 \def\Hy@FormObjects{%
14157 \pdfobj {%
14158 <<%
14159 /Type/Encoding%
14160 /Differences%
14161 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
14162 /ring/tilde %
14163 39/quotesingle %
14164 96/grave %
14165 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
14166 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
14167 /quotedblbase/quotedblleft/quotedblright/quoteleft%
14168 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
14169 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
14170 164/currency %
14171 166/brokenbar %
14172 168/dieresis/copyright/ordfeminine %
14173 172/logicalnot/.notdef/registered/macron/degree/plusminus%
14174 /twosuperior/threesuperior/acute/mu %
14175 183/periodcentered/cedilla/onesuperior/ordmasculine %
14176 188/onequarter/onehalf/threequarters %
14177 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
14178 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
14179 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
14180 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
14181 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
14182 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
14183 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
14184 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
14185 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
14186 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
14187 ]%
14188 >>%
14189 }%
14190 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
14191 \pdfobj{%

```

```

14192 <<%
14193   /Type/Font%
14194   /Subtype/Type1%
14195   /Name/ZaDb%
14196   /BaseFont/ZapfDingbats%
14197 >>%
14198 }%
14199 \xdef\OBJ@ZaDb{\the\pdfastobj}%
14200 \pdfobj{%
14201 <<%
14202   /Type/Font%
14203   /Subtype/Type1%
14204   /Name/Helv%
14205   /BaseFont/Helvetica%
14206   /Encoding \OBJ@pdfdocencoding\space 0 R%
14207 >>%
14208 }%
14209 \xdef\OBJ@Helv{\the\pdfastobj}%
14210 \global\let\Hy@FormObjects\relax
14211 }
14212 \</pdfTeX>

```

## 48.5 dvipdfm, xetex

D. P. Story adapted the pdfT<sub>E</sub>X forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

14213 \<*dvipdfm | xetex>

```

### \@Gauge

```

14214 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
14215   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
14216 }

```

### \@Form

```

14217 \def\@Form[#1]{%
14218   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
14219   \kvsetkeys{Form}{#1}%
14220   \Hy@FormObjects
14221   \@pdfm@mark{obj @afields []}%
14222   \@pdfm@mark{obj @corder []}%
14223   \@pdfm@mark{%
14224     obj @aform <<%
14225       /Fields @afields%
14226       /DR<<%
14227       /Font<<%
14228       /ZaDb @OBJZaDb%
14229       /Helv @OBJHelv%
14230       >>%
14231       >>%
14232       /DA(/Helv 10 Tf 0 g)%

```

```

14233 /CO @corder%
14234 \ifHy@pdfa
14235 \else
14236 \ifHyField@NeedAppearances
14237 /NeedAppearances true%
14238 \fi
14239 \fi
14240 >>%
14241 }%
14242 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
14243 }

```

\@endForm

```

14244 \let\@endForm\ltx@empty

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

14245 \def\dvipdfm@setdim{%
14246 height \the\ht\pdfm@box\space
14247 width \the\wd\pdfm@box\space
14248 depth \the\dp\pdfm@box\space
14249 }

```

\HyField@AnnotCount

```

14250 \newcount\HyField@AnnotCount
14251 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

14252 \def\HyField@AdvanceAnnotCount{%
14253 \global\advance\HyField@AnnotCount\@ne
14254 }

```

\HyField@TheAnnotCount

```

14255 \def\HyField@TheAnnotCount{%
14256 \the\HyField@AnnotCount
14257 }

```

\Fld@pageobjref

```

14258 \def\Fld@pageobjref{/P @thispage}%

```

\HyField@AddToFields

```

14259 \def\HyField@AddToFields#1{%
14260 \@pdfm@mark{put @afields @#1\HyField@TheAnnotCount}%
14261 \ifx\Fld@calculate@code\ltx@empty
14262 \else
14263 \@pdfm@mark{put @corder @#1\HyField@TheAnnotCount}%
14264 \fi
14265 }

```

\@TextField

```
14266 \def\@TextField[#1]#2{% parameters, label
14267 \def\Fld@name{#2}%
14268 \let\Fld@default\ltx@empty
14269 \let\Fld@value\@empty
14270 \def\Fld@width{\DefaultWidthofText}%
14271 \def\Fld@height{%
14272 \ifFld@multiline
14273 \DefaultHeightofTextMultiline
14274 \else
14275 \DefaultHeightofText
14276 \fi
14277 }%
14278 \begingroup
14279 \expandafter\HyField@SetKeys\expandafter{%
14280 \DefaultOptionsofText,#1%
14281 }%
14282 \PDFForm@Name
14283 \HyField@FlagsText
14284 \ifFld@hidden\def\Fld@width{1sp}\fi
14285 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
14286 \setbox\pdfm@box=\hbox{%
14287 \MakeTextField{\Fld@width}{\Fld@height}%
14288 }%
14289 \HyField@AdvanceAnnotCount
14290 \LayoutTextField{#2}{%
14291 \leavevmode
14292 \Hy@escapeform\PDFForm@Text
14293 \@pdfm@mark{%
14294 ann @text\HyField@TheAnnotCount\space
14295 \dvipdfm@setdim << \PDFForm@Text >>%
14296 }%
14297 }%
14298 \unhbox\pdfm@box
14299 \HyField@AddToFields{text}%
14300 % record in @afields array
14301 \endgroup
14302 }
```

\@ChoiceMenu

```
14303 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
14304 \def\Fld@name{#2}%
14305 \let\Fld@default\relax
14306 \let\Fld@value\relax
14307 \def\Fld@width{\DefaultWidthofChoiceMenu}%
14308 \def\Fld@height{\DefaultHeightofChoiceMenu}%
14309 \begingroup
14310 \Fld@menulength=0 %
14311 \@tempdima\z@
14312 \@for\@curropt:=#3\do{%
```

```

14313 \expandafter\Fld@checkequals\@curropt==\\%
14314 \Hy@StepCount\Fld@menulength
14315 \settowidth{\@tempdimb}{\@currDisplay}%
14316 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
14317 }%
14318 \advance\@tempdima by 15\p@
14319 \begingroup
14320 \HyField@SetKeys{#1}%
14321 \edef\x{\endgroup
14322 \noexpand\expandafter
14323 \noexpand\HyField@SetKeys
14324 \noexpand\expandafter{%
14325 \expandafter\noexpand\csname DefaultOptionsof%
14326 \ifFld@radio
14327 Radio%
14328 \else
14329 \ifFld@combo
14330 \ifFld@popdown
14331 PopdownBox%
14332 \else
14333 ComboBox%
14334 \fi
14335 \else
14336 ListBox%
14337 \fi
14338 \fi
14339 \endcsname
14340 }%
14341 }\x
14342 \HyField@SetKeys{#1}%
14343 \PDFForm@Name
14344 \ifFld@hidden\def\Fld@width{1sp}\fi
14345 \ifx\Fld@value\relax
14346 \let\Fld@value\Fld@default
14347 \fi
14348 \LayoutChoiceField{#2}{%
14349 \ifFld@radio
14350 \HyField@FlagsRadioButton
14351 \@@Radio{#3}%
14352 \else
14353 \begingroup
14354 \HyField@FlagsChoice
14355 \ifdim\Fld@width<\@tempdima
14356 \ifdim\@tempdima<1cm\@tempdima1cm\fi
14357 \edef\Fld@width{\the\@tempdima}%
14358 \fi
14359 \ifFld@combo
14360 \else
14361 \@tempdima=\the\Fld@menulength\Fld@charsize
14362 \advance\@tempdima by \Fld@borderwidth bp %

```



```

14363         \advance\@tempdima by \Fld@borderwidth bp %
14364         \edef\Fld@height{\the\@tempdima}%
14365         \fi
14366         \@@Listbox{#3}%
14367     \endgroup
14368 \fi
14369 }%
14370 \endgroup
14371 }

\@@Radio
14372 \def\@@Radio#1{%
14373     \Fld@listcount=0 %
14374     \EdefEscapeName\Fld@default{\Fld@default}%
14375     \setbox\pdfm@box=\hbox{%
14376         \MakeRadioField{\Fld@width}{\Fld@height}%
14377     }%
14378     \for\@curropt:=#1\do{%
14379         \expandafter\Fld@checkequals\@curropt==\%
14380         \EdefEscapeName\@currValue{\@currValue}%
14381         \Hy@StepCount\Fld@listcount
14382         \@currDisplay\space
14383         \leavevmode
14384         \Hy@escapeform\PDFForm@Radio
14385         \ifnum\Fld@listcount=1 %
14386             \HyField@AdvanceAnnotCount
14387         \fi
14388         \@pdfm@mark{%
14389             ann %
14390             \ifnum\Fld@listcount=1 %
14391                 @radio\HyField@TheAnnotCount%
14392             \space
14393         \fi
14394         \dvipdfm@setdim
14395         <<%
14396             \PDFForm@Radio
14397             /AP<</N<</\@currValue /null>>>%
14398         >>%
14399     }%
14400     \unhcopy\pdfm@box\space% deliberate space between radio buttons
14401     \ifnum\Fld@listcount=1 %
14402         \HyField@AddToFields{radio}%
14403     \fi
14404 }%
14405 }

\Fld@listcount
14406 \newcount\Fld@listcount

\@@Listbox

```

```

14407 \def\@@Listbox#1{%
14408   \HyField@PDFChoices{#1}%
14409   \setbox\pdfm@box=\hbox{%
14410     \MakeChoiceField{\Fld@width}{\Fld@height}%
14411   }%
14412   \leavevmode
14413   \Hy@escapeform\PDFForm@List
14414   \HyField@AdvanceAnnotCount
14415   \@pdfm@mark{%
14416     ann @list\HyField@TheAnnotCount\space
14417     \dvipdfm@setdim
14418     <<\PDFForm@List>>%
14419   }%
14420   \unhbox\pdfm@box
14421   \HyField@AddToFields{list}%
14422 }

```

#### \@PushButton

```

14423 \def\@PushButton[#1]#2{% parameters, label
14424   \def\Fld@name{#2}%
14425   \begingroup
14426     \expandafter\HyField@SetKeys\expandafter{%
14427       \DefaultOptionsofPushButton,#1%
14428     }%
14429     \PDFForm@Name
14430     \ifHy@pdfa
14431       \Hy@Error{%
14432         PDF/A: Push button with JavaScript is prohibited%
14433       }\@ehc
14434       \LayoutPushButtonField{%
14435         \leavevmode
14436         \MakeButtonField{#2}%
14437       }%
14438     \else
14439       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14440       \HyField@FlagsPushButton
14441       \ifFld@hidden\def\Fld@width{1sp}\fi
14442       \HyField@AdvanceAnnotCount
14443       \LayoutPushButtonField{%
14444         \leavevmode
14445         \Hy@escapeform\PDFForm@Push
14446         \@pdfm@mark{%
14447           ann @push\HyField@TheAnnotCount\space
14448           \dvipdfm@setdim
14449           <<\PDFForm@Push>>%
14450         }%
14451       }%
14452       \unhbox\pdfm@box
14453       \HyField@AddToFields{push}%
14454     \fi

```

```

14455 \endgroup
14456 }

\@Submit
14457 \def\@Submit[#1]#2{%
14458 \def\Fld@width{\DefaultWidthofSubmit}%
14459 \def\Fld@height{\DefaultHeightofSubmit}%
14460 \begingroup
14461 \expandafter\HyField@SetKeys\expandafter{%
14462 \DefaultOptionsofSubmit,#1%
14463 }%
14464 \HyField@FlagsPushButton
14465 \HyField@FlagsSubmit
14466 \ifFld@hidden\def\Fld@width{1sp}\fi
14467 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14468 \leavevmode
14469 \Hy@escapeform\PDFForm@Submit
14470 \HyField@AdvanceAnnotCount
14471 \@pdfm@mark{%
14472 ann @submit\HyField@TheAnnotCount\space
14473 \dvipdfm@setdim
14474 <<\PDFForm@Submit>>%
14475 }%
14476 \unhbox\pdfm@box%
14477 \HyField@AddToFields{submit}%
14478 \endgroup
14479 }

\@Reset
14480 \def\@Reset[#1]#2{%
14481 \def\Fld@width{\DefaultWidthofReset}%
14482 \def\Fld@height{\DefaultHeightofReset}%
14483 \begingroup
14484 \expandafter\HyField@SetKeys\expandafter{%
14485 \DefaultOptionsofReset,#1%
14486 }%
14487 \leavevmode
14488 \ifHy@pdfa
14489 \Hy@Error{%
14490 PDF/A: Reset action is prohibited%
14491 }\@ehc
14492 \MakeButtonField{#2}%
14493 \else
14494 \HyField@FlagsPushButton
14495 \ifFld@hidden\def\Fld@width{1sp}\fi
14496 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14497 \Hy@escapeform\PDFForm@Reset
14498 \HyField@AdvanceAnnotCount
14499 \@pdfm@mark{%
14500 ann @reset\HyField@TheAnnotCount\space

```

```

14501      \dvipdfm@setdim
14502      <<\PDFForm@Reset>>%
14503      }%
14504      \unhbox\pdfm@box
14505      \HyField@AddToFields{reset}%
14506      \fi
14507 \endgroup
14508 }

```

# \@CheckBox

```

14509 \def\@CheckBox[#1]#2{% parameters, label
14510 \def\Fld@name{#2}%
14511 \def\Fld@default{0}%
14512 \begingroup
14513 \def\Fld@width{\DefaultWidthofCheckBox}%
14514 \def\Fld@height{\DefaultHeightofCheckBox}%
14515 \expandafter\HyField@SetKeys\expandafter{%
14516   \DefaultOptionsofCheckBox,#1%
14517 }%
14518 \PDFForm@Name
14519 \HyField@FlagsCheckBox
14520 \ifFld@hidden\def\Fld@width{1sp}\fi
14521 \setbox\pdfm@box=\hbox{%
14522   \MakeCheckField{\Fld@width}{\Fld@height}%
14523 }%
14524 \HyField@AdvanceAnnotCount
14525 \LayoutCheckField{#2}{%
14526   \leavevmode
14527   \Hy@escapeform\PDFForm@Check
14528   \@pdfm@mark{%
14529     ann @check\HyField@TheAnnotCount\space
14530     \dvipdfm@setdim
14531     <<\PDFForm@Check>>%
14532   }%
14533   \unhbox\pdfm@box
14534   \HyField@AddToFields{check}%
14535 }%
14536 \endgroup
14537 }

14538 \def\Hy@FormObjects{%
14539 \@pdfm@mark{obj @OBJpdfdocencoding%
14540 <<%
14541 /Type/Encoding%
14542 /Differences%
14543 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
14544 39/quotesingle %
14545 96/grave %
14546 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
14547 /fraction/guilsinglleft/guilsinglright/minus/perthousand%

```

14548 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%  
 14549 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%  
 14550 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %  
 14551 164/currency %  
 14552 166/brokenbar %  
 14553 168/dieresis/copyright/ordfeminine %  
 14554 172/logicalnot/.notdef/registered/macron/degree/plusminus%  
 14555 /twosuperior/threesuperior/acute/mu %  
 14556 183/periodcentered/cedilla/onesuperior/ordmasculine %  
 14557 188/onequarter/onehalf/threequarters %  
 14558 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%  
 14559 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%  
 14560 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%  
 14561 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%  
 14562 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%  
 14563 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%  
 14564 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%  
 14565 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%  
 14566 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%  
 14567 /thorn/ydieresis%  
 14568 ]%  
 14569 >>%  
 14570 }%  
 14571 \@pdfm@mark{obj @OBJZaDb%  
 14572 <<%  
 14573 /Type/Font%  
 14574 /Subtype/Type1%  
 14575 /Name/ZaDb%  
 14576 /BaseFont/ZapfDingbats%  
 14577 >>%  
 14578 }%  
 14579 \@pdfm@mark{obj @OBJHelv%  
 14580 <<%  
 14581 /Type/Font%  
 14582 /Subtype/Type1%  
 14583 /Name/Helv%  
 14584 /BaseFont/Helvetica%  
 14585 /Encoding @OBJpdfdocencoding%  
 14586 >>%  
 14587 }%  
 14588 \global\let\Hy@FormObjects\relax  
 14589 }  
 14590 </dvipdfm | xetex>

## 48.6 Common forms part

14591 <\*pdfform>

\Fld@pageobjref

14592 \providecommand\*{\Fld@pageobjref}{{}

\Hy@escapestring

```
14593 \begingroup\expandafter\expandafter\expandafter\endgroup
14594 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
14595   \let\Hy@escapestring\@firstofone
14596   \def\Hy@escapeform#1{%
14597     \ifHy@pdfescapeform
14598       \def\Hy@escapestring##1{%
14599         \noexpand\Hy@escapestring{\noexpand##1}%
14600       }%
14601       \edef\Hy@temp{#1}%
14602       \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
14603     \def\Hy@escapestring##1{%
14604       \ifundefined{Hy@esc@\string##1}{%
14605         ##1%
14606         \ThisShouldNotHappen
14607       }{%
14608         \csname Hy@esc@\string##1\endcsname
14609       }%
14610     }%
14611   \else
14612     \let\Hy@escapestring\@firstofone
14613   \fi
14614 }%
14615 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
14616   \ifx\\#3\\%
14617   \else
14618     \expandafter
14619     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
14620     \ltx@ReturnAfterFi{%
14621       \Hy@@escapeform#3\@nil
14622     }%
14623   \fi
14624 }%
14625 \else
14626   \def\Hy@escapeform#1{%
14627     \ifHy@pdfescapeform
14628       \let\Hy@escapestring\pdfescapestring
14629     \else
14630       \let\Hy@escapestring\@firstofone
14631     \fi
14632   }%
14633   \Hy@escapeform{%
14634   \fi
```

\PDFForm@Name

```
14635 \def\PDFForm@Name{%
14636   \PDFForm@@Name\Fld@name
14637   \ifx\Fld@altname\relax
14638   \else
14639     \PDFForm@@Name\Fld@altname
```

```

14640 \fi
14641 \ifx\Fld@mappingname\relax
14642 \else
14643 \PDFForm@@Name\Fld@mappingname
14644 \fi
14645 }

```

\PDFForm@@Name

```

14646 \def\PDFForm@@Name#1{%
14647 \begingroup
14648 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
14649 \ifHy@unicode
14650 \Hy@unicodedefalse
14651 \fi
14652 \fi
14653 \HyPsd@XeTeXBigCharstrue
14654 \pdfstringdef\Hy@gtemp#1%
14655 \endgroup
14656 \let#1\Hy@gtemp
14657 }

```

\Fld@additionalactions

```

14658 \def\Fld@@additionalactions{%
K input (keystroke) format
14659 \ifx\Fld@keystroke@code\@empty
14660 \else
14661 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
14662 \fi
F display format
14663 \ifx\Fld@format@code\@empty
14664 \else
14665 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
14666 \fi
V validation
14667 \ifx\Fld@validate@code\@empty
14668 \else
14669 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
14670 \fi
C calculation
14671 \ifx\Fld@calculate@code\@empty
14672 \else
14673 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
14674 \fi
Fo receiving the input focus
14675 \ifx\Fld@onfocus@code\@empty
14676 \else

```

```

14677 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
14678 \fi
Bl loosing the input focus (blurred)
14679 \ifx\Fld@onblur@code\@empty
14680 \else
14681 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
14682 \fi
D pressing the mouse button (down)
14683 \ifx\Fld@onmousedown@code\@empty
14684 \else
14685 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
14686 \fi
U releasing the mouse button (up)
14687 \ifx\Fld@onmouseup@code\@empty
14688 \else
14689 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
14690 \fi
E cursor enters the annotation's active area.
14691 \ifx\Fld@onenter@code\@empty
14692 \else
14693 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
14694 \fi
X cursor exits the annotation's active area.
14695 \ifx\Fld@onexit@code\@empty
14696 \else
14697 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
14698 \fi
14699 }
14700 \def\Fld@additionalactions{%
14701 \if\Fld@@additionalactions-%
14702 \else
14703 \ifHy@pdfa
14704 \else
14705 /AA<<\Fld@@additionalactions>>%
14706 \fi
14707 \fi
14708 }

\Fld@annotnames
14709 \def\Fld@annotnames{%
14710 /T(\Fld@name)%
14711 \ifx\Fld@altname\relax
14712 \else
14713 /TU(\Fld@altname)%
14714 \fi
14715 \ifx\Fld@mappingname\relax
14716 \else

```



```

14717 /TM(\Fld@mappingname)%
14718 \fi
14719 }

```

#### \PDFForm@Check

```

14720 \def\PDFForm@Check{%
14721 /Subtype/Widget%
14722 \Fld@annotflags
14723 \Fld@pageobjref
14724 \Fld@annotnames
14725 /FT/Btn%
14726 \Fld@flags
14727 /Q \Fld@align
14728 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
14729 /MK<<%
14730 \ifnum\Fld@rotation=\z@
14731 \else
14732 /R \Fld@rotation
14733 \fi
14734 \ifx\Fld@bordercolor\relax
14735 \else
14736 /BC[\Fld@bordercolor]%
14737 \fi
14738 \ifx\Fld@bcolor\relax
14739 \else
14740 /BG[\Fld@bcolor]%
14741 \fi
14742 /CA(\Hy@escapestring{\Fld@cbsymbol})%
14743 >>%
14744 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14745 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14746 /H/P%
14747 \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi
14748 \Fld@additionalactions
14749 }

```

#### \PDFForm@Push

```

14750 \ifHy@pdfa
14751 \else
14752 \def\PDFForm@Push{%
14753 /Subtype/Widget%
14754 \Fld@annotflags
14755 \Fld@pageobjref
14756 \Fld@annotnames
14757 /FT/Btn%
14758 \Fld@flags
14759 /H/P%
14760 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14761 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14762 \ifx\Fld@bordercolor\relax\else 1\fi

```

```

14763         \space
14764     \else
14765         /MK<<%
14766         \ifnum\Fld@rotation=\z@
14767         \else
14768             /R \Fld@rotation
14769         \fi
14770         \ifx\Fld@bordercolor\relax
14771         \else
14772             /BC[\Fld@bordercolor]%
14773         \fi
14774         >>%
14775     \fi
14776     /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14777     \Fld@additionalactions
14778 }%
14779 \fi

```

\PDFForm@List

```

14780 \def\PDFForm@List{%
14781     /Subtype/Widget%
14782     \Fld@annotflags
14783     \Fld@pageobjref
14784     \Fld@annotnames
14785     /FT/Ch%
14786     \Fld@flags
14787     /Q \Fld@align
14788     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14789     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14790         \ifx\Fld@bordercolor\relax\else 1\fi
14791         \ifx\Fld@bcolor\relax \else 1\fi
14792         \space
14793     \else
14794         /MK<<%
14795         \ifnum\Fld@rotation=\z@
14796         \else
14797             /R \Fld@rotation
14798         \fi
14799         \ifx\Fld@bordercolor\relax
14800         \else
14801             /BC[\Fld@bordercolor]%
14802         \fi
14803         \ifx\Fld@bcolor\relax
14804         \else
14805             /BG[\Fld@bcolor]%
14806         \fi
14807         >>%
14808     \fi
14809     /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14810         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%

```

```

14811 \Fld@choices
14812 \Fld@additionalactions
14813 }

```

#### \PDFForm@Radio

```

14814 \def\PDFForm@Radio{%
14815 /Subtype/Widget%
14816 \Fld@annotflags
14817 \Fld@pageobjref
14818 \Fld@annotnames
14819 /FT/Btn%
14820 \Fld@flags
14821 /H/P%
14822 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14823 /MK<<%
14824 \ifnum\Fld@rotation=\z@
14825 \else
14826 /R \Fld@rotation
14827 \fi
14828 \ifx\Fld@bordercolor\relax
14829 \else
14830 /BC[\Fld@bordercolor]%
14831 \fi
14832 \ifx\Fld@bcolor\relax
14833 \else
14834 /BG[\Fld@bcolor]%
14835 \fi
14836 /CA(\Hy@escapestring{\Fld@radiosymbol})%
14837 >>%
14838 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14839 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14840 \ifx\@currValue\Fld@default
14841 /V/\Fld@default
14842 /DV/\Fld@default
14843 \else
14844 /V/Off%
14845 /DV/Off%
14846 \fi
14847 \Fld@additionalactions
14848 }

```

#### \PDFForm@Text

```

14849 \def\PDFForm@Text{%
14850 /Subtype/Widget%
14851 \Fld@annotflags
14852 \Fld@pageobjref
14853 \Fld@annotnames
14854 /FT/Tx%
14855 \Fld@flags
14856 /Q \Fld@align

```

```

14857 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14858 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14859     \ifx\Fld@bordercolor\relax\else 1\fi
14860     \ifx\Fld@bcolor\relax \else 1\fi
14861     \space
14862 \else
14863 /MK<<%
14864     \ifnum\Fld@rotation=\z@
14865     \else
14866     /R \Fld@rotation
14867     \fi
14868     \ifx\Fld@bordercolor\relax
14869     \else
14870     /BC[\Fld@bordercolor]%
14871     \fi
14872     \ifx\Fld@bcolor\relax
14873     \else
14874     /BG[\Fld@bcolor]%
14875     \fi
14876 >>%
14877 \fi
14878 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14879     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14880 /DV(\Hy@escapestring{\Fld@default})%
14881 /V(\Hy@escapestring{\Fld@value})%
14882 \Fld@additionalactions
14883 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14884 }

```

\PDFForm@Submit

```

14885 \def\PDFForm@Submit{%
14886 /Subtype/Widget%
14887 \Fld@annotflags
14888 \Fld@pageobjref
14889 \Fld@annotnames
14890 /FT/Btn%
14891 \Fld@flags
14892 /H/P%
14893 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14894 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14895     \ifx\Fld@bordercolor\relax\else 1\fi
14896     \space
14897 \else
14898 /MK<<%
14899     \ifnum\Fld@rotation=\z@
14900     \else
14901     /R \Fld@rotation
14902     \fi
14903     \ifx\Fld@bordercolor\relax
14904     \else

```

```

14905      /BC[\Fld@bordercolor]%
14906      \fi
14907      >>%
14908      \fi
14909      /A<<%
14910      /S/SubmitForm%
14911      /F<<%
14912      /FS/URL%
14913      /F(\Hy@escapestring{\Form@action})%
14914      >>%
14915      \Fld@submitflags
14916      >>%
14917      \Fld@additionalactions
14918      }

```

\PDFForm@Reset

```

14919 \ifHy@pdfa
14920 \else
14921   \def\PDFForm@Reset{%
14922     /Subtype/Widget%
14923     \Fld@cannotflags
14924     \Fld@pageobjref
14925     \Fld@annotnames
14926     /FT/Btn%
14927     \Fld@flags
14928     /H/P%
14929     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14930     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14931       \ifx\Fld@bordercolor\relax\else 1\fi
14932       \space
14933     \else
14934       /MK<<%
14935       \ifnum\Fld@rotation=\z@
14936       \else
14937         /R \Fld@rotation
14938       \fi
14939       \ifx\Fld@bordercolor\relax
14940       \else
14941         /BC[\Fld@bordercolor]%
14942       \fi
14943       % /CA (Clear)
14944       % /AC (Done)
14945       >>%
14946       \fi
14947       /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14948       /A<</S/ResetForm>>%
14949       \Fld@additionalactions
14950     }%
14951     \fi

```

```
14952 </pdfform>
14953 <*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`

```
14954 \def\phantomsection{%
14955   \Hy@MakeCurrentHrefAuto{section*}%
14956   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14957 }
14958 </package>
```

### 49.1 Bookmarks

```
14959 <*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.

```
14960 \def\Hy@writebookmark#1#2#3#4#5{%
14961   % section number, text, label, level, file
14962   \ifx\WriteBookmarks\relax%
14963   \else
14964     \ifnum#4>\Hy@bookmarksdepth\relax
14965     \else
14966       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
14967     \fi
```

```

14968 \fi
14969 }
14970 \def\Hy@currentbookmarklevel{0}
14971 \def\Hy@numberline#1{#1 }
14972 \def\@@writetorep#1#2#3#4#5{%
14973 \begingroup
14974 \edef\Hy@tempa{#5}%
14975 \ifx\Hy@tempa\Hy@bookmarkstype
14976 \edef\Hy@level{#4}%
14977 \ifx\Hy@levelcheck Y%
14978 \@tempcnta\Hy@level\relax
14979 \advance\@tempcnta by -1 %
14980 \ifnum\Hy@currentbookmarklevel<\@tempcnta
14981 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14982 \advance\@tempcnta by 1 %
14983 \Hy@Warning{%
14984 Difference (\the\@tempcnta) between bookmark levels is %
14985 greater \MessageBreak than one, level fixed%
14986 }%
14987 \@tempcnta\Hy@currentbookmarklevel
14988 \advance\@tempcnta by 1 %
14989 \edef\Hy@level{\the\@tempcnta}%
14990 \fi
14991 \else
14992 \global\let\Hy@levelcheck Y%
14993 \fi
14994 \global\let\Hy@currentbookmarklevel\Hy@level
14995 \@tempcnta\Hy@level\relax
14996 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14997 \advance\@tempcnta by -1 %
14998 \edef\Hy@tempa{#3}%
14999 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
15000 \ifx\Hy@tempa\Hy@tempb
15001 \Hy@Warning{%
15002 The anchor of a bookmark and its parent's must not%
15003 \MessageBreak be the same. Added a new anchor%
15004 }%
15005 \phantomsection
15006 \fi
15007 \ifHy@bookmarksnumbered
15008 \let\numberline\Hy@numberline
15009 \let\booknumberline\Hy@numberline
15010 \let\partnumberline\Hy@numberline
15011 \let\chapternumberline\Hy@numberline
15012 \else
15013 \let\numberline\@gobble
15014 \let\booknumberline\@gobble
15015 \let\partnumberline\@gobble
15016 \let\chapternumberline\@gobble
15017 \fi

```

```

15018 \HyPsd@XeTeXBigCharstrue
15019 \pdfstringdef\Hy@tempa{#2}%
15020 \HyPsd@SanitizeForOutFile\Hy@tempa
15021 \if@filesw
15022 \stepcounter{bookmark@seq@number}%
15023 \@ifundefined{@outlinefile}{%
15024 }{%
15025 \protected@write\@outlinefile{}{%
15026 \protect\BOOKMARK
15027 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
15028 {\Hy@tempa}{\Hy@tempb}%
15029 \@percentchar\space\thebookmark@seq@number
15030 }%
15031 }%
15032 \fi
15033 \fi
15034 \endgroup
15035 }
15036 \newcounter{bookmark@seq@number}

15037 \begingroup
15038 \lccode'('= '{%
15039 \lccode')='}%
15040 \lccode'1=\z@
15041 \lccode'2=\z@
15042 \lccode'3=\z@
15043 \lccode'5=\z@
15044 \lccode'7=\z@
15045 \lccode'\#=\z@
15046 \lccode'\='=\z@
15047 \lccode'\{=\z@
15048 \lccode'\}= \z@
15049 \lowercase{%
15050 \endgroup
15051 \def\HyPsd@SanitizeForOutFile#1{%
15052 \@onelevel@sanitize\Hy@tempa
15053 \escapechar'\%
15054 \edef\Hy@tempa{%
15055 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
15056 }%
15057 \edef\Hy@tempa{%
15058 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
15059 }%
15060 }%
15061 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
15062 #1%
15063 \ifx\#2\%
15064 \expandafter\ltx@gobble
15065 \else
15066 \expandafter\ltx@firstofone

```



```

15067 \fi
15068 {%
15069 \string\173%
15070 \HyPsd@SanitizeOut@BraceLeft#2\@nil
15071 }%
15072 }%
15073 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
15074 #1%
15075 \ifx\\#2\\%
15076 \expandafter\ltx@gobble
15077 \else
15078 \expandafter\ltx@firstofone
15079 \fi
15080 {%
15081 \string\175%
15082 \HyPsd@SanitizeOut@BraceRight#2\@nil
15083 }%
15084 }%
15085 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

15086 \newcommand{\currentpdfbookmark}{%
15087 \pdfbookmark[\Hy@currentbookmarklevel]%
15088 }
15089 \newcommand{\subpdfbookmark}{%
15090 \@tempcnta\Hy@currentbookmarklevel
15091 \Hy@StepCount\@tempcnta
15092 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
15093 }
15094 \newcommand{\belowpdfbookmark}[2]{%
15095 \@tempcnta\Hy@currentbookmarklevel
15096 \Hy@StepCount\@tempcnta
15097 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
15098 \advance\@tempcnta by -1 %
15099 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
15100 }

```

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.

```

15101 \renewcommand\pdfbookmark[3][0]{%
15102 \Hy@writebookmark}{#2}{#3.#1}{#1}{toc}%
15103 \hyper@anchorstart{#3.#1}\hyper@anchorend
15104 }
15105 \def\BOOKMARK{%
15106 \@ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
15107 }
15108 \def\@BOOKMARK[#1]{%
15109 \@ifnextchar{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}%

```

15110 }

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfopdf macros.

#### 49.1.1 Rerun warning

\Hy@OutlineRerunCheck

```
15111 \RequirePackage{rerunfilecheck}[2009/12/10]
15112 \def\Hy@OutlineRerunCheck{%
15113   \RerunFileCheck{\jobname.out}{%
15114     \immediate\closeout\@outlinefile
15115   }{%
15116     Rerun to get outlines right\MessageBreak
15117     or use package 'bookmark'%
15118   }%
15119 }
```

#### 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.

```
15120 <*vtx>
15121 \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.

```
15122 \begingroup
15123   \catcode'\'=12 %
15124   \ifnum\Hy@VTeXversion<650 %
15125     \catcode\'=12 %
15126     \gdef\hv@pdf@char#1#2#3{%
15127       \char
15128       \ifcase'#1#2#3 %
15129         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
15130         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
15131         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
15132         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
15133         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
15134         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
15135         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
15136         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
15137         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
15138         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
15139         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
15140         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
15141         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
```

```

15142 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
15143 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
15144 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
15145 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
15146 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
15147 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
15148 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
15149 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
15150 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
15151 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
15152 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
15153 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
15154 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
15155 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
15156 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
15157 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
15158 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
15159 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
15160 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
15161 \fi
15162 }%
15163 \else
15164 \gdef\hv@pdf@char{\char'}%
15165 \fi
15166 \endgroup

```

\@@BOOKMARK

```

15167 \def\@@BOOKMARK[#1][#2]#3#4#5{%
15168 \expandafter\edef\csname @count@#3\endcsname{%
15169 \the\@serial@counter
15170 }%
15171 \edef\@mycount{\the\@serial@counter}%
15172 \Hy@StepCount\@serial@counter
15173 \edef\@parcount{%
15174 \expandafter\ifx\csname @count@#5\endcsname\relax
15175 0%
15176 \else
15177 \csname @count@#5\endcsname
15178 \fi
15179 }%
15180 \immediate\special{%
15181 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
15182 s=\ifx#2-c\else o\fi,t=#4%
15183 }%
15184 }%

```

\ReadBookmarks

```

15185 \def\ReadBookmarks{%
15186 \begingroup
15187 \def\0{\hv@pdf@char 0}%

```

```

15188 \def\1{\hv@pdf@char 1}%
15189 \def\2{\hv@pdf@char 2}%
15190 \def\3{\hv@pdf@char 3}%
15191 \def\{({}%
15192 \def\)}{)%
15193 \def\do###1{%
15194   \ifnum\catcode'###1=\active
15195     \@makeother###1%
15196   \else
15197     \ifnum\catcode'###1=6 %
15198       \@makeother###1%
15199     \fi
15200   \fi
15201 }%
15202 \dospecials
15203 \Hy@safe@activetrue
15204 \InputIfFileExists{\jobname.out}{\}{}%
15205 \endgroup
15206 \ifx\WriteBookmarks\relax
15207 \else
15208   \if@filesw
15209     \newwrite\@outlinefile
15210     \Hy@OutlineRerunCheck
15211     \immediate\openout\@outlinefile=\jobname.out\relax
15212     \ifHy@typexml
15213       \immediate\write\@outlinefile{<relaxxml>\relax}%
15214     \fi
15215   \fi
15216 \fi
15217 }

15218 </vtex>
15219 <!*vtex>
15220 \def\ReadBookmarks{%
15221 \pdf@ifdraftmode{\}%
15222 \begingroup
15223 \def\do###1{%
15224   \ifnum\catcode'###1=\active
15225     \@makeother###1%
15226   \else
15227     \ifnum\catcode'###1=6 %
15228       \@makeother###1%
15229     \fi
15230   \fi
15231 }%
15232 \dospecials
15233 \Hy@safe@activetrue
15234 \escapechar='\%
15235 \def\@@BOOKMARK[##1][##2]##3##4##5{%
15236   \calc@bm@number{##5}%

```

```

15237 }%
15238 \InputIfFileExists{\jobname.out}{-}{-}%
15239 \ifx\WriteBookmarks\relax
15240 \global\let\WriteBookmarks\relax
15241 \fi
15242 \def\@BOOKMARK[##1][##2]##3##4##5{%
15243 \def\Hy@temp{##4}%
15244 \<*pdftex>
15245 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
15246 \Hy@OutlineName{\Hy@pstringName{
15247 ##2\check@bm@number{##3}}%
15248 }{%
15249 \expandafter\strip@prefix\meaning\Hy@temp
15250 }%
15251 \</pdftex>
15252 \<*pdfmark>
15253 \pdfmark{%
15254 pdfmark=/OUT,%
15255 Count={##2\check@bm@number{##3}},%
15256 Dest={##3},%
15257 Title=\expandafter\strip@prefix\meaning\Hy@temp
15258 }%
15259 \</pdfmark>
15260 \<*dviptfm | xetex>
15261 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
15262 \@pdfm@mark{%
15263 outline \ifHy@DvipdfmxOutlineOpen
15264 [%
15265 \ifnum##21>\z@
15266 \else
15267 -%
15268 \fi
15269 ] %
15270 \fi
15271 ##1<<%
15272 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
15273 /A<<%
15274 /S/GoTo%
15275 /D(\Hy@pstringName)%
15276 >>%
15277 >>%
15278 }%
15279 \</dviptfm | xetex>
15280 }%
15281 \begingroup
15282 \def\WriteBookmarks{0}%
15283 \InputIfFileExists{\jobname.out}{-}{-}%
15284 \endgroup
15285 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
15286 \endgroup

```

```

15287 }%
15288 \ifx\WriteBookmarks\relax
15289 \else
15290 \if@filesw
15291 \newwrite\@outlinefile
15292 \Hy@OutlineRerunCheck
15293 \immediate\openout\@outlinefile=\jobname.out\relax
15294 \ifHy@typexml
15295 \immediate\write\@outlinefile{<relaxxml>\relax}%
15296 \fi
15297 \fi
15298 \fi
15299 }
15300 <*pdftex>
15301 \def\Hy@OutlineName#1#2#3#4{%
15302 \pdfoutline goto name{#2}count#3{#4}%
15303 }
15304 </pdftex>
15305 \def\check@bm@number#1{%
15306 \expandafter\ifx\csname B_#1\endcsname\relax
15307 0%
15308 \else
15309 \csname B_#1\endcsname
15310 \fi
15311 }
15312 \def\calc@bm@number#1{%
15313 \@tempcnta=\check@bm@number{#1}\relax
15314 \advance\@tempcnta by 1 %
15315 \expandafter\xdef\csname B_#1\endcsname{the\@tempcnta}%
15316 }
15317 </!vtex>
15318 \ifHy@implicit
15319 \else
15320 \expandafter\endinput
15321 \fi
15322 </outlines>
15323 <*outlines | hypertex>
15324 \newlength\Hy@SectionHShift
15325 \def\Hy@SectionAnchorHref#1{%
15326 \ifx\protect\@typeset@protect
15327 \Hy@@SectionAnchor{#1}%
15328 \fi
15329 }
15330 \DeclareRobustCommand*{\Hy@@SectionAnchor}[1]{%
15331 \leavevmode
15332 \hbox to 0pt{%
15333 \kern-\Hy@SectionHShift
15334 \Hy@raisedlink{%
15335 \hyper@anchorstart{#1}\hyper@anchorend

```

```

15336 }%
15337 \hss
15338 }%
15339 }
15340 \let\H@old@ssect\@ssect
15341 \def\@ssect#1#2#3#4#5{%
15342 \Hy@MakeCurrentHrefAuto{section*}%
15343 \setlength{\Hy@SectionHShift}{#1}%
15344 \begingroup
15345 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
15346 \toks\tw@\expandafter{%
15347 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
15348 #5%
15349 }%
15350 \edef\x{\endgroup
15351 \the\toks@\the\toks\tw@}%
15352 }\x
15353 }
15354 \let\H@old@schapter\@schapter
15355 \def\@schapter#1{%
15356 \begingroup
15357 \let\@mkboth\@gobbletwo
15358 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15359 \Hy@raisedlink{%
15360 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15361 }%
15362 \endgroup
15363 \H@old@schapter{#1}%
15364 }

```

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:

```

15365 \ltx@ifundefined{@chapter}{-}{%
15366 \let\Hy@org@chapter\@chapter
15367 \def\@chapter{%
15368 \def\Hy@next{%
15369 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15370 \Hy@raisedlink{%
15371 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15372 }%
15373 }%
15374 \ifnum\c@secnumdepth>\m@ne
15375 \ltx@ifundefined{if@mainmatter}%
15376 \iftrue{\csname if@mainmatter\endcsname}%
15377 \let\Hy@next\relax
15378 \fi
15379 \fi
15380 \Hy@next
15381 \Hy@org@chapter

```

```

15382 }%
15383 }

15384 \let\H@old@part\@part
15385 \begingroup\expandafter\expandafter\expandafter\endgroup
15386 \expandafter\ifx\csname chapter\endcsname\relax
15387 \let\Hy@secnum@part\z@
15388 \else
15389 \let\Hy@secnum@part\m@ne
15390 \fi
15391 \def\@part{%
15392 \ifnum\Hy@secnum@part>\c@secnumdepth
15393 \phantomsection
15394 \fi
15395 \H@old@part
15396 }

15397 \let\H@old@spart\@spart
15398 \def\@spart#1{%
15399 \Hy@MakeCurrentHrefAuto{part*}%
15400 \Hy@raisedlink{%
15401 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15402 }%
15403 \H@old@spart{#1}%
15404 }

15405 \let\H@old@sect\@sect
15406 \def\@sect#1#2#3#4#5#6[#7]#8{%
15407 \ifnum #2>\c@secnumdepth
15408 \expandafter\@firstoftwo
15409 \else
15410 \expandafter\@secondoftwo
15411 \fi
15412 {%
15413 \Hy@MakeCurrentHrefAuto{section*}%
15414 \setlength{\Hy@SectionHShift}{#3}%
15415 \begingroup
15416 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]}%
15417 \toks\tw@\expandafter{%
15418 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
15419 #8%
15420 }%
15421 \edef\x{\endgroup
15422 \the\toks@{\the\toks\tw@}}%
15423 }\x
15424 }{%
15425 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]{#8}%
15426 }%
15427 }

15428 </outlines | hypertex>
15429 <*outlines>

```



```

15430 \expandafter\def\csname Parent-4\endcsname{}
15431 \expandafter\def\csname Parent-3\endcsname{}
15432 \expandafter\def\csname Parent-2\endcsname{}
15433 \expandafter\def\csname Parent-1\endcsname{}
15434 \expandafter\def\csname Parent0\endcsname{}
15435 \expandafter\def\csname Parent1\endcsname{}
15436 \expandafter\def\csname Parent2\endcsname{}
15437 \expandafter\def\csname Parent3\endcsname{}
15438 \expandafter\def\csname Parent4\endcsname{}
15439 </outlines>

```

## 50 Compatibility with koma-script classes

```

15440 <*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.

```

15441 \def\Hy@tempa{%
15442   \def\@addchap{##1}##2{%
15443     \typeout{##2}%
15444     \iftwoside
15445       \@mkboth{##1}{}%
15446     \else
15447       \@mkboth{}{##1}%
15448     \fi
15449     \addtocontents{lof}{\protect\addvspace{10\p@}}%
15450     \addtocontents{lot}{\protect\addvspace{10\p@}}%
15451     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15452     \Hy@raisedlink{%
15453       \hyper@anchorstart{\@currentHref}\hyper@anchorend
15454     }%
15455     \if@twocolumn
15456       \@topnewpage[\@makeschapterhead{##2}]%
15457     \else
15458       \@makeschapterhead{##2}%
15459       \@afterheading
15460     \fi
15461     \addcontentsline{toc}{chapter}{##1}%
15462   }%
15463 }
15464 \ifclassloaded{scrbook}{%
15465   \ifclasslater{scrbook}{2001/01/01}{%
15466     \let\Hy@tempa\@empty
15467   }{}%
15468 }{%
15469   \ifclassloaded{scrreprt}{%
15470     \ifclasslater{scrreprt}{2001/01/01}{%

```

```

15471 \let\Hy@tempa\@empty
15472 }{}%
15473 }{%
15474 \let\Hy@tempa\@empty
15475 }%
15476 }%
15477 \Hy@tempa
15478 </outlines | hypertex>

```

## 51 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 51.1 PD1 encoding

```

15479 <*pd1enc>
15480 \DeclareFontEncoding{PD1}{}{}

Accents
15481 \DeclareTextAccent{'}{PD1}{\textasciigrave}
15482 \DeclareTextAccent{'}{PD1}{\textacute}
15483 \DeclareTextAccent{^}{PD1}{\textasciicircum}
15484 \DeclareTextAccent{~}{PD1}{\texttilde}
15485 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
15486 \DeclareTextAccent{r}{PD1}{\textring}
15487 \DeclareTextAccent{v}{PD1}{\textasciicaron}
15488 \DeclareTextAccent{.}{PD1}{\textdotaccent}
15489 \DeclareTextAccent{c}{PD1}{\textcedilla}
15490 \DeclareTextAccent{=}{PD1}{\textasciimacron}
15491 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
15492 \DeclareTextAccent{d}{PD1}{\textdotbelow}
15493 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
15494 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textacute}
15495 \DeclareTextCompositeCommand{^}{PD1}{\@empty}{\textasciicircum}
15496 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
15497 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
15498 \DeclareTextCompositeCommand{r}{PD1}{\@empty}{\textring}
15499 \DeclareTextCompositeCommand{v}{PD1}{\@empty}{\textasciicaron}
15500 \DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}
15501 \DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}
15502 \DeclareTextCompositeCommand{=}{PD1}{\@empty}{\textasciimacron}
15503 \DeclareTextCompositeCommand{b}{PD1}{\@empty}{\textmacronbelow}
15504 \DeclareTextCompositeCommand{d}{PD1}{\@empty}{\textdotbelow}
15505 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textasciigrave}
15506 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textacute}
15507 \DeclareTextCompositeCommand{^}{PD1}{\ }{\textasciicircum}
15508 \DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}
15509 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}

```

```

15510 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
15511 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
15512 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
15513 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
15514 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
15515 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
15516 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
15517 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
15518 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
15519 \DeclareTextCommand{\newtie}{PD1}[1]{%
15520   \TextSymbolUnavailable{\newtie{#1}}#1%
15521 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

15522 % U+0009 (CHARACTER TABULATION)
15523 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
15524 % U+000A (LINE FEED)
15525 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
15526 % U+000D (CARRIAGE RETURN)
15527 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

15528 % U+02D8 BREVE; breve
15529 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
15530 % U+02C7 CARON; caron
15531 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
15532 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
15533 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
15534 % U+02D9 DOT ABOVE; dotaccent
15535 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
15536 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
15537 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
15538 % U+02DB OGONEK; ogonek
15539 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
15540 % U+02DA RING ABOVE; ring
15541 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
15542 % U+02DC SMALL TILDE; ilde, *tilde
15543 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

15544 % U+0022 QUOTATION MARK; quotedbl
15545 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022
15546 % U+0023 NUMBER SIGN; numbersign
15547 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
15548 % U+0024 DOLLAR SIGN; dollar
15549 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
15550 % U+0025 PERCENT SIGN; percent
15551 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
15552 % U+0026 AMPERSAND; ampersand
15553 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

```

\047: U+0027 APOSTROPHE; quotesingle  
  
 15554 % U+0028 LEFT PARENTHESIS; parenleft  
 15555 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028  
 15556 % U+0029 RIGHT PARENTHESIS; parenright  
 15557 \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  
 15558 % U+002E FULL STOP; period  
 15559 \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  
 15560 % U+003C LESS-THAN SIGN; less  
 15561 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
  
 \075: U+003D EQUALS SIGN; equal  
 15562 % U+003E GREATER-THAN SIGN; greater  
 15563 \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  
 15564 % U+005C REVERSE SOLIDUS; backslash  
 15565 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 15566 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"  
 15567 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}  
  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 15568 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 15569 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 15570 % U+005F LOW LINE; underscore  
 15571 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 15572 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 15573 % U+0060 GRAVE ACCENT; grave  
 15574 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
  
 \141: U+0061 LATIN SMALL LETTER A; a  
  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 15575 % U+0069 LATIN SMALL LETTER I; i

15576 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
\152: U+006A LATIN SMALL LETTER J; j  
...  
\172: U+007A LATIN SMALL LETTER Z; z  
15577 % U+007B LEFT CURLY BRACKET; braceleft  
15578 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
15579 % U+007C VERTICAL LINE; \*bar, verticalbar  
15580 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
15581 % U+007D RIGHT CURLY BRACKET; braceright  
15582 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
15583 % U+007E TILDE; asciitilde  
15584 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
Slot \177 (0x7F) is undefined in PDFDocEncoding.  
15585 % U+2022 BULLET; bullet  
15586 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
15587 % U+2020 DAGGER; dagger  
15588 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
15589 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
15590 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
15591 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}  
15592 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
15593 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
15594 % U+2014 EM DASH; emdash  
15595 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
15596 % U+2013 EN DASH; endash  
15597 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
15598 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
15599 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
15600 % U+2044 FRACTION SLASH; fraction  
15601 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
15602 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
singleft  
15603 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039  
15604 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
singright  
15605 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A  
15606 % U+2212 MINUS SIGN; minus  
15607 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
15608 % U+2030 PER MILLE SIGN; perthousand  
15609 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
15610 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
15611 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
15612 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
15613 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
15614 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
15615 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
15616 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
15617 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
15618 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright

15619 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
15620 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
15621 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
15622 % U+2122 TRADE MARK SIGN; trademark  
15623 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
15624 % U+FB01 LATIN SMALL LIGATURE FI; fi  
15625 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
15626 % U+FB02 LATIN SMALL LIGATURE FL; fl  
15627 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
15628 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
15629 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
15630 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
15631 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
15632 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
15633 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
15634 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
15635 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178  
15636 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A  
15637 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
15638 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
15639 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
15640 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
15641 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
15642 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
15643 % U+0153 LATIN SMALL LIGATURE OE; oe  
15644 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
15645 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
15646 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
15647 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
15648 \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.

15649 % U+20AC EURO SIGN; \*Euro, euro  
15650 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
15651 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
15652 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
15653 % U+00A2 CENT SIGN; cent  
15654 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
15655 % U+00A3 POUND SIGN; sterling  
15656 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
15657 % U+00A4 CURRENCY SIGN; currency  
15658 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
15659 % U+00A5 YEN SIGN; yen  
15660 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
15661 % U+00A6 BROKEN BAR; brokenbar  
15662 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
15663 % U+00A7 SECTION SIGN; section  
15664 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
15665 % U+00A8 DIAERESIS; dieresis

15666 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
15667 % U+00A9 COPYRIGHT SIGN; copyright  
15668 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
15669 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
15670 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
15671 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motleft  
15672 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
15673 % U+00AC NOT SIGN; logicalnot  
15674 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
15675 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
No glyph \255 in PDFDocEncoding.  
15676 % U+00AE REGISTERED SIGN; registered  
15677 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
15678 % U+00AF MACRON; \*macron, overscore  
15679 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
15680 % U+00B0 DEGREE SIGN; degree  
15681 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
15682 % U+00B1 PLUS-MINUS SIGN; plusminus  
15683 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
15684 % U+00B2 SUPERSCRIP T TWO; twosuperior  
15685 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%\* U+00B2  
15686 % U+00B3 SUPERSCRIP T THREE; threesuperior  
15687 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%\* U+00B3  
15688 % U+00B4 ACUTE ACCENT; acute  
15689 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
15690 % U+00B5 MICRO SIGN; mu, mul  
15691 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
15692 % U+00B6 PILCROW SIGN; paragraph  
15693 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
15694 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15695 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
15696 % U+00B8 CEDILLA; cedilla  
15697 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
15698 % U+00B9 SUPERSCRIP T ONE; onesuperior  
15699 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%\* U+00B9  
15700 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
15701 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
15702 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
15703 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
15704 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
15705 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
15706 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
15707 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
15708 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15709 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
15710 % U+00BF INVERTED QUESTION MARK; questiondown  
15711 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF

15712 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15713 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
15714 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15715 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
15716 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15717 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
15718 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15719 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
15720 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15721 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
15722 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15723 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
15724 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15725 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
15726 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15727 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
15728 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15729 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
15730 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15731 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
15732 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15733 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
15734 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15735 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
15736 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15737 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
15738 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15739 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
15740 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15741 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
15742 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15743 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
15744 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15745 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
15746 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
15747 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15748 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
15749 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15750 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
15751 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15752 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
15753 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15754 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
15755 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15756 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
15757 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15758 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
15759 % U+00D7 MULTIPLICATION SIGN; multiply  
15760 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
15761 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash



15762 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
15763 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15764 \DeclareTextCompositeCommand{\'}{PD1}{U}{\331}% U+00D9  
15765 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15766 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
15767 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15768 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
15769 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15770 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
15771 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15772 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
15773 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15774 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
15775 \DeclareTextCommand{\textThorn}{PD1}{\336}%\* U+00DE  
15776 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15777 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
15778 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15779 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340}% U+00E0  
15780 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15781 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
15782 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15783 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
15784 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15785 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
15786 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15787 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
15788 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15789 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
15790 % U+00E6 LATIN SMALL LETTER AE; ae  
15791 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
15792 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15793 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
15794 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15795 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350}% U+00E8  
15796 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15797 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
15798 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15799 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
15800 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15801 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
15802 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15803 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15804 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15805 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15806 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15807 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15808 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15809 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15810 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15811 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis

15812 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF  
15813 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF  
15814 % U+00F0 LATIN SMALL LETTER ETH; eth  
15815 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
15816 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15817 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
15818 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
15819 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
15820 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
15821 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
15822 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
15823 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
15824 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
15825 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
15826 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
15827 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
15828 % U+00F7 DIVISION SIGN; divide  
15829 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
15830 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
15831 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
15832 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
15833 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9  
15834 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
15835 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA  
15836 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
15837 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB  
15838 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
15839 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC  
15840 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
15841 \DeclareTextCompositeCommand{\`}{PD1}{y}{\375}% U+00FD  
15842 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)  
15843 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
15844 \DeclareTextCommand{\textthorn}{PD1}{\376}%\* U+00FE  
15845 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
15846 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF  
15847 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A

Glyphs that consist of several characters.

15848 \DeclareTextCommand{\SS}{PD1}{SS}%  
15849 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%

Aliases (german.sty)

15850 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%  
15851 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%  
15852 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%  
15853 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%  
15854 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}%  
15855 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}%  
15856 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%  
15857 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%

Aliases (math names)

```

15858 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15859 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15860 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15861 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15862 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15863 \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).

```

15864 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15865 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15866 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15867 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
15868 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15869 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15870 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot

15871 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15872 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15873 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15874 \DeclareTextCompositeCommand{\.}{PD1}{N}{N}% Nacute
15875 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15876 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15877 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

15878 </pd1enc>

```

## 51.2 PU encoding

```

15879 <*puenc>
15880 \DeclareFontEncoding{PU}{-}{}

```

### 51.2.1 NFSS2 accents

```

15881 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15882 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
15883 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15884 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15885 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15886 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15887 % U+0303 COMBINING TILDE; tildecmb, *tildecomb
15888 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15889 % U+0304 COMBINING MACRON; macroncmb
15890 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15891 % U+0306 COMBINING BREVE; brevecmb
15892 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15893 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15894 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15895 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15896 % U+0308 COMBINING DIAERESIS; dieresiscmb
15897 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15898 % U+030A COMBINING RING ABOVE; ringcmb

```

15899 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A  
15900 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb  
15901 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B  
15902 % U+030C COMBINING CARON; caroncmb  
15903 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C  
15904 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
15905 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F  
15906 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F  
15907 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
15908 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311  
15909 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
15910 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323  
15911 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-  
laut (tipa)  
15912 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324  
15913 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)  
15914 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325  
15915 % U+0327 COMBINING CEDILLA; cedillacmb  
15916 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327  
15917 % U+0328 COMBINING OGONEK; ogonekcmb  
15918 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328  
15919 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;  
15920 % \textsubcircum (tipa)  
15921 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D  
15922 % U+032E COMBINING BREVE BELOW; brevebelowcmb  
15923 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E  
15924 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)  
15925 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330  
15926 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
15927 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331  
15928 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-  
blecmb  
15929 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361  
15930 % U+20DD COMBINING ENCLOSING CIRCLE  
15931 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

Double accents.

15932 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304  
15933 \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.

15934 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}%  
15935 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}%  
15936 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}%  
15937 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%  
15938 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%  
15939 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}%  
15940 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%  
15941 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%  
15942 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%

15943 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%  
15944 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%  
15945 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%  
15946 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%  
15947 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%  
15948 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\{\ \83\021\}}% U+0311  
15949 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\{\ \83\044\}}% U+0324  
15950 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%  
15951 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-  
low}%  
15952 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\{\ \83\056\}}% U+032E  
15953 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildebelow}%  
15954 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%  
15955 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%  
15956 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%  
15957 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%  
15958 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%  
15959 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\{\ \83\001\83\004\}}% U+0301 U+  
15960 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\{\ \83\000\83\004\}}% U+0300 U+  
15961 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}%  
15962 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%  
15963 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}%  
15964 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%  
15965 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%  
15966 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%  
15967 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%  
15968 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%  
15969 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%  
15970 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%  
15971 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%  
15972 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%  
15973 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%  
15974 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%  
15975 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\{\ \83\021\}}% U+0311  
15976 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\{\ \83\044\}}% U+0324  
15977 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}%  
15978 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%  
15979 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\{\ \83\056\}}% U+032E  
15980 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildebelow}%  
15981 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%  
15982 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%  
15983 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%  
15984 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%  
15985 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%  
15986 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\{\ \83\001\83\004\}}% U+0301 U+0304  
15987 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\{\ \83\000\83\004\}}% U+0300 U+0304  
  
Accents for capitals (see encoding TS1)  
15988 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}%  
15989 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}%

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15990 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}%
15991 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}%
15992 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}%
15993 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}%
15994 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}%
15995 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%
15996 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}%
15997 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}%
15998 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}%
15999 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}%
16000 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}%
16001 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}%
16002 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%

```

### 51.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

16003 % U+0009 (CHARACTER TABULATION)
16004 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
16005 % U+000A (LINE FEED)
16006 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
16007 % U+000D (CARRIAGE RETURN)
16008 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D
\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam
16009 % U+0022 QUOTATION MARK; quotedbl
16010 \DeclareTextCommand{\textquotedbl}{PU}{"}% \80\042 U+0022
16011 % U+0023 NUMBER SIGN; numbersign
16012 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
16013 % U+0024 DOLLAR SIGN; dollar
16014 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
16015 %* \textdollar -> \mathdollar
16016 %* \textdollar -> \EyesDollar (marvosym)
16017 % U+0025 PERCENT SIGN; percent
16018 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
16019 % U+0026 AMPERSAND; ampersand
16020 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
16021 %* \textampersand -> \binampersand (stmaryrd)
16022 %* \textampersand -> \with (cmll)
16023 % U+0027 APOSTROPHE; quotesingle
16024 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
16025 % U+0028 LEFT PARENTHESIS; parenleft
16026 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
16027 % U+0029 RIGHT PARENTHESIS; parenright
16028 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
16029 % U+002A ASTERISK; asterisk; (?)
16030 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A
16031 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)
16032 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%* U+002B
16033 % U+002C COMMA; comma; \MVComma (marvosym)

```

```

16034 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%* U+002C
16035 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)
16036 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%* U+002D
16037 % U+002E FULL STOP; period; \MVPeriod (marvosym)
16038 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%* U+002E
16039 % U+002F SOLIDUS; slash; \MVDivision (marvosym)
16040 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%* U+002F
16041 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)
16042 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%* U+0030
16043 % U+0031 DIGIT ONE; one; \MVOne (marvosym)
16044 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%* U+0031
16045 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)
16046 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%* U+0032
16047 % U+0033 DIGIT THREE; three; \MVThree (marvosym)
16048 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%* U+0033
16049 % U+0034 DIGIT FOUR; four; \MVFour (marvosym)
16050 \DeclareTextCommand{\textMVFour}{PU}{\80\064}%* U+0034
16051 % U+0035 DIGIT FIVE; five; \MVFive (marvosym)
16052 \DeclareTextCommand{\textMVFive}{PU}{\80\065}%* U+0035
16053 % U+0036 DIGIT SIX; six; \MVSix (marvosym)
16054 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%* U+0036
16055 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)
16056 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%* U+0037
16057 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)
16058 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%* U+0038
16059 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)
16060 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%* U+0039
\80\072: U+003A COLON; colon
\80\073: U+003B SEMICOLON; semicolon
16061 % U+003C LESS-THAN SIGN; less
16062 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
\80\075: U+003D EQUALS SIGN; equal
16063 % U+003E GREATER-THAN SIGN; greater
16064 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E
\80\077: U+003F QUESTION MARK; question
16065 % U+0040 COMMERCIAL AT; at; \MVAt (marvosym)
16066 \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
16067 % U+005C REVERSE SOLIDUS; backslash
16068 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
\80\135: U+005D RIGHT SQUARE BRACKET; bracketright
16069 % U+005E CIRCUMFLEX ACCENT; asciicircum
16070 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E

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16071 % U+005F LOW LINE; underscore  
 16072 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 16073 %\* \textunderscore -> \mathunderscore (LaTeX)  
 16074 % U+0060 GRAVE ACCENT; grave  
 16075 \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  
 16076 % U+0069 LATIN SMALL LETTER I; i  
 16077 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069  
 16078 \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  
 16079 % U+007B LEFT CURLY BRACKET; braceleft  
 16080 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 16081 % U+007C VERTICAL LINE; \*bar, verticalbar  
 16082 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 16083 %\* \textbar -> \textvertline (tipa)  
 16084 % U+007D RIGHT CURLY BRACKET; braceright  
 16085 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 16086 % U+007E TILDE; asciitilde  
 16087 \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  
 16088 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 16089 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 16090 % U+00A2 CENT SIGN; cent  
 16091 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 16092 % U+00A3 POUND SIGN; sterling  
 16093 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 16094 %\* \textsterling -> \mathsterling (LaTeX)  
 16095 %\* \textsterling -> \pounds (LaTeX)  
 16096 % U+00A4 CURRENCY SIGN; currency  
 16097 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 16098 % U+00A5 YEN SIGN; yen  
 16099 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 16100 % U+00A6 BROKEN BAR; brokenbar  
 16101 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 16102 %\* \textbrokenbar -> \brokenvert (wasysym)  
 16103 % U+00A7 SECTION SIGN; section  
 16104 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 16105 %\* \textsection -> \mathsection (LaTeX)  
 16106 %\* \textsection -> \S (LaTeX)  
 16107 % U+00A8 DIAERESIS; dieresis  
 16108 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8



16109 % U+00A9 COPYRIGHT SIGN; copyright  
 16110 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%\* U+00A9  
 16111 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 16112 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 16113 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motleft  
 16114 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 16115 % U+00AC NOT SIGN; logicalnot  
 16116 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 16117 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
 16118 % U+00AE REGISTERED SIGN; registered  
 16119 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 16120 % U+00AF MACRON; \*macron, overscore  
 16121 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 16122 % U+00B0 DEGREE SIGN; degree  
 16123 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 16124 % U+00B1 PLUS-MINUS SIGN; plusminus  
 16125 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 16126 % U+00B2 SUPERSCRIFT TWO; twosuperior  
 16127 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%\* U+00B2  
 16128 % U+00B3 SUPERSCRIFT THREE; threesuperior  
 16129 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%\* U+00B3  
 16130 % U+00B4 ACUTE ACCENT; acute  
 16131 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
 16132 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
 16133 % U+00B5 MICRO SIGN; mu, mul  
 16134 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
 16135 % U+00B6 PILCROW SIGN; paragraph  
 16136 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
 16137 %\* \textparagraph -> \mathparagraph (LaTeX)  
 16138 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 16139 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
 16140 %\* \textperiodcentered -> \MultiplicationDot (marvosym)  
 16141 %\* \textperiodcentered -> \Squaredot (marvosym)  
 16142 % U+00B8 CEDILLA; cedilla  
 16143 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
 16144 % U+00B9 SUPERSCRIFT ONE; onesuperior  
 16145 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%\* U+00B9  
 16146 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 16147 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
 16148 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motright  
 16149 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
 16150 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 16151 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
 16152 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 16153 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
 16154 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters

16155 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
16156 % U+00BF INVERTED QUESTION MARK; questiondown  
16157 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
16158 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
16159 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
16160 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
16161 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
16162 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
16163 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
16164 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
16165 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
16166 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
16167 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
16168 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
16169 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
16170 % U+00C6 LATIN CAPITAL LETTER AE; AE  
16171 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
16172 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
16173 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
16174 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
16175 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
16176 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
16177 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
16178 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
16179 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
16180 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
16181 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
16182 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
16183 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
16184 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
16185 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
16186 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
16187 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
16188 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
16189 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
16190 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
16191 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
16192 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
16193 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
16194 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
16195 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
16196 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
16197 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
16198 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
16199 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
16200 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
16201 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
16202 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
16203 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
16204 % U+00D7 MULTIPLICATION SIGN; multiply

16205 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
16206 %\* \textmultiply -> \vartimes (stmaryrd)  
16207 %\* \textmultiply -> \MVMultiplication (marvosym)  
16208 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
16209 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
16210 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
16211 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9  
16212 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
16213 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
16214 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
16215 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
16216 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
16217 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
16218 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
16219 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
16220 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
16221 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
16222 \DeclareTextCommand{\textThorn}{PU}{\80\336}%\* U+00DE  
16223 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
16224 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
16225 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
16226 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0  
16227 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
16228 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
16229 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
16230 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
16231 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
16232 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
16233 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
16234 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
16235 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
16236 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
16237 % U+00E6 LATIN SMALL LETTER AE; ae  
16238 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
16239 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
16240 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
16241 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
16242 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
16243 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
16244 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
16245 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
16246 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
16247 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
16248 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
16249 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
16250 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
16251 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
16252 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
16253 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
16254 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED

16255 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
 16256 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\356}% U+00EE  
 16257 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
 16258 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
 16259 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
 16260 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
 16261 % U+00F0 LATIN SMALL LETTER ETH; eth  
 16262 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
 16263 %\* \dh -> \eth (wsuiipa, phonetic)  
 16264 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 16265 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
 16266 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 16267 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
 16268 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 16269 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 16270 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 16271 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
 16272 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 16273 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 16274 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 16275 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
 16276 % U+00F7 DIVISION SIGN; divide  
 16277 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 16278 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 16279 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 16280 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 16281 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 16282 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 16283 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 16284 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 16285 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
 16286 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 16287 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 16288 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 16289 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 16290 % U+00FE LATIN SMALL LETTER THORN; thorn;  
 16291 % \th, \thorn (wasysym), \textthorn (tipa)  
 16292 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 16293 \DeclareTextCommand{\textthorn}{PU}{\80\376}%\* U+00FE  
 16294 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 16295 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 51.2.4 Latin Extended-A: U+0080 to U+017F

16296 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 16297 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 16298 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 16299 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 16300 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 16301 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102

16302 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
16303 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
16304 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
16305 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
16306 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
16307 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
16308 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
16309 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
16310 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
16311 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
16312 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
16313 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
16314 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
16315 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
16316 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-  
cent  
16317 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
16318 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
16319 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
16320 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
16321 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
16322 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
16323 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
16324 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
16325 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
16326 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
16327 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
16328 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
16329 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
16330 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;  
16331 % \textcrd (tipa)  
16332 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
16333 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111  
16334 %\* \textcrd -> \crossd (wsuipa)  
16335 % An alternate glyph with the stroke through the bowl:  
16336 %\* \textcrd -> \textbard (tipa)  
16337 %\* \textcrd -> \bard (wsuipa)  
16338 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
16339 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
16340 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
16341 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
16342 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
16343 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
16344 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
16345 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
16346 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
16347 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
16348 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
16349 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
16350 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek

16351 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
16352 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
16353 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
16354 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
16355 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
16356 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
16357 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
16358 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
16359 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
16360 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
16361 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
16362 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
16363 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
16364 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
16365 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
16366 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-  
cent  
16367 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
16368 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
16369 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
16370 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcom-  
mmaaccent  
16371 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
16372 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
16373 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
16374 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
16375 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
16376 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
16377 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
16378 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
16379 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
16380 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)  
16381 \DeclareTextCommand{\texthbar}{PU}{\81\047}%\* U+0127  
16382 %\* \texthbar -> \textcrh (tipa)  
16383 %\* \texthbar -> \crossh (wsuipa)  
16384 %\* \texthbar -> \planck (phonetic)  
16385 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
16386 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
16387 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
16388 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
16389 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129  
16390 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
16391 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
16392 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
16393 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
16394 \DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B  
16395 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
16396 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
16397 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
16398 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D

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16399 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
16400 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
16401 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
16402 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
16403 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
16404 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
16405 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
16406 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
16407 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
16408 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
16409 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
16410 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
16411 % U+0133 LATIN SMALL LIGATURE IJ; ij
16412 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
16413 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
16414 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
16415 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
16416 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
16417 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
16418 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
16419 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
16420 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
16421 \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.
16422 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
16423 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
16424 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
16425 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
16426 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
16427 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
16428 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
16429 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
16430 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
16431 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
16432 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
16433 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
16434 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
16435 \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.
16436 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotac-
cent
16437 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
16438 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent

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16439 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
 16440 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 16441 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
 16442 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 16443 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
 16444 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
 16445 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
 16446 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
 16447 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
 16448 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-  
 cent  
 16449 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
 16450 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
 16451 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
 16452 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
 16453 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
 16454 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
 16455 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
 16456 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-  
 trophe, quoterightn  
 16457 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
 16458 % U+014A LATIN CAPITAL LETTER ENG; Eng  
 16459 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
 16460 % U+014B LATIN SMALL LETTER ENG; eng  
 16461 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
 16462 %\* \ng -> \eng (wsuipa)  
 16463 %\* \ng -> \engma (phonetic)  
 16464 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
 16465 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
 16466 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
 16467 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
 16468 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
 16469 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
 16470 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
 16471 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
 16472 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odbla-  
 cute, Ohungarumlaut  
 16473 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
 16474 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-  
 cute, ohungarumlaut  
 16475 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
 16476 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 16477 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
 16478 % U+0153 LATIN SMALL LIGATURE OE; oe  
 16479 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
 16480 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
 16481 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
 16482 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
 16483 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
 16484 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-



cent

16485 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
16486 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
16487 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
16488 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
16489 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
16490 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
16491 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
16492 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
16493 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
16494 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
16495 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
16496 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
16497 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
16498 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
16499 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
16500 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
16501 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
16502 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
16503 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
16504 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
16505 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
16506 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
16507 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
16508 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-  
cent  
16509 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
16510 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
16511 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
16512 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
16513 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
16514 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
16515 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
16516 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
16517 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
16518 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
16519 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
16520 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
16521 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
16522 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
16523 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
16524 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
16525 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
16526 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
16527 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
16528 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
16529 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
16530 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
16531 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
16532 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring

16533 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
 16534 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
 16535 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
 16536 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
 16537 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
 16538 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
 16539 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
 16540 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
 16541 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
 16542 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
 16543 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
 16544 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
 16545 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
 16546 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
 16547 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
 16548 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
 16549 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 16550 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 16551 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 16552 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 16553 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
 16554 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 16555 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
 16556 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 16557 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 16558 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 16559 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 16560 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 16561 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 16562 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 16563 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 16564 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 16565 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 16566 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 16567 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

### 51.2.5 Latin Extended-B: U+0180 to U+024F

16568 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)  
 16569 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180  
 16570 %\* \textcrb -> \crossb (wsuipa)  
 16571 % An alternate glyph with the stroke through the bowl:  
 16572 %\* \textcrb -> \textbarb (tipa)  
 16573 %\* \textcrb -> \barb (wsuipa)  
 16574 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (phonetic)  
 16575 \DeclareTextCommand{\texthausab}{PU}{\81\201}%\* U+0181  
 16576 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)  
 16577 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188

16578 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (pho-  
 netic)  
 16579 \DeclareTextCommand{\texthausad}{PU}{\81\212}%\* U+018A  
 16580 % U+018E LATIN CAPITAL LETTER REVERSED E; Ereversed  
 16581 \DeclareTextCommand{\textEreversed}{PU}{\81\216}% U+018E  
 16582 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E  
 16583 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 16584 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 16585 %\* \textflorin -> \Florin (marvosym)  
 16586 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)  
 16587 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195  
 16588 %\* \texthvlig -> \hv (wsuipa)  
 16589 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (pho-  
 netic)  
 16590 \DeclareTextCommand{\texthausak}{PU}{\81\230}%\* U+0198  
 16591 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)  
 16592 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199  
 16593 %\* \texthtk -> \hausak (phonetic)  
 16594 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;  
 16595 % \textbarl (tipa), \barl (wsuipa)  
 16596 \DeclareTextCommand{\textbarl}{PU}{\81\232}%\* U+019A  
 16597 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/  
 16598 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;  
 16599 % \textcrlambda (tipa)  
 16600 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B  
 16601 %\* \textcrlambda -> \crossnilambda (wsuipa)  
 16602 %\* \textcrlambda -> \barlambd (phonetic)  
 16603 %\* \textcrlambda -> \lambdabar (txfonts/pxfonts)  
 16604 %\* \textcrlambda -> \lambdaslash (txfonts/pxfonts)  
 16605 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-  
 long;  
 16606 % \textnrleg (tipx)  
 16607 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E  
 16608 %\* \textPUnrleg -> \textnrleg (tipx)  
 16609 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)  
 16610 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5  
 16611 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;  
 16612 % \textlhookt (tipa)  
 16613 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB  
 16614 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)  
 16615 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD  
 16616 % U+01B9 LATIN SMALL LETTER EZH REVERSED/  
 16617 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)  
 16618 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9  
 16619 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)  
 16620 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB  
 16621 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;  
 16622 % glottalinvertedstroke; \textcrinvglotstop (tipa)  
 16623 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE  
 16624 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)

16625 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF  
16626 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-  
tal;  
16627 % \textpipe (tipa)  
16628 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0  
16629 %\* \textpipe -> \textpipevar (tipx)  
16630 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER  
16631 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)  
16632 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1  
16633 %\* \textdoublepipe -> \textdoublepipevar (tipx)  
16634 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-  
BLE BAR;  
16635 % clickalveolar; \textdoublebarpipe (tipa)  
16636 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2  
16637 %\* \textdoublebarpipe -> \textdoublebarpipevar (tipx)  
16638 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
16639 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
16640 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
16641 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
16642 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
16643 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
16644 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
16645 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
16646 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
16647 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
16648 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
16649 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
16650 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
16651 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
16652 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
16653 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
16654 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
16655 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)  
16656 \DeclareTextCommand{\textinve}{PU}{\81\335}%\* U+01DD  
16657 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
16658 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
16659 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
16660 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
16661 %\* \textgslash -> \textcrg (tipa)  
16662 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
16663 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
16664 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
16665 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
16666 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
16667 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
16668 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
16669 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
16670 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
16671 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\352}% U+01EA  
16672 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek

16673 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
16674 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
16675 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
16676 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
16677 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
16678 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
16679 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
16680 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
16681 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
16682 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8  
16683 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
16684 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9  
16685 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
16686 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
16687 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
16688 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
16689 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;  
16690 % \*Oslashacute, Ostrokeacute  
16691 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
16692 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;  
16693 % \*oslashacute, ostrokeacute  
16694 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
16695 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
16696 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
16697 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
16698 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
16699 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
16700 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
16701 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
16702 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
16703 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-  
edbreve  
16704 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206  
16705 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einverted-  
breve  
16706 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207  
16707 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
16708 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
16709 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
16710 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16711 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16712 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-  
breve  
16713 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A  
16714 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-  
breve  
16715 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
16716 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\i}{\82\013}% U+020B  
16717 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
16718 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C

16719 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
 16720 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
 16721 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-  
 edbreve  
 16722 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E  
 16723 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-  
 breve  
 16724 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F  
 16725 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
 16726 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
 16727 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
 16728 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
 16729 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
 16730 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
 16731 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
 16732 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 16733 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-  
 edbreve  
 16734 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216  
 16735 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-  
 breve  
 16736 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217  
 16737 % U+021E LATIN CAPITAL LETTER H WITH CARON  
 16738 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 16739 % U+021F LATIN SMALL LETTER H WITH CARON  
 16740 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 16741 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)  
 16742 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221  
 16743 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)  
 16744 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225  
 16745 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 16746 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 16747 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 16748 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 16749 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 16750 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 16751 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 16752 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 16753 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 16754 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 16755 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 16756 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 16757 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 16758 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 16759 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 16760 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 16761 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)  
 16762 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235  
 16763 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)  
 16764 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236

16765 % U+0237 LATIN SMALL LETTER DOTLESS J  
 16766 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237  
 16767 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)  
 16768 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238  
 16769 %\* \textPUdblig -> \textdblig (tipx)  
 16770 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)  
 16771 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239  
 16772 %\* \textPUqplig -> \textqplig (tipx)  
 16773 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)  
 16774 \DeclareTextCommand{\textslashc}{PU}{\82\074}%\* U+023C  
 16775 %\* \textslashc -> \textcentoldstyle (textcomp)  
 16776 % With bar instead of stroke:  
 16777 %\* \textslashc -> \textbarc (tipa)

### 51.2.6 IPA Extensions: U+0250 to U+02AF

16778 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)  
 16779 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250  
 16780 %\* \textturna -> \inva (wasysym)  
 16781 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER  
 16782 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)  
 16783 \DeclareTextCommand{\textscripta}{PU}{\82\121}%\* U+0251  
 16784 %\* \textscripta -> \vara (phonetic)  
 16785 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;  
 16786 % \textturnscripta (tipa)  
 16787 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252  
 16788 %\* \textturnscripta -> \invscripta (wsuipa)  
 16789 %\* \textturnscripta -> \rotvara (phonetic)  
 16790 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)  
 16791 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253  
 16792 %\* \texthtb -> \hookb (wsuipa)  
 16793 %\* \texthtb -> \hausab (phonetic)  
 16794 % U+0254 LATIN SMALL LETTER OPEN O; oopen;  
 16795 % \textopeno (tipa), \openo (wasysym)  
 16796 \DeclareTextCommand{\textopeno}{PU}{\82\124}%\* U+0254  
 16797 %\* \textopeno -> \varopeno (phonetic)  
 16798 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)  
 16799 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255  
 16800 %\* \textctc -> \curlyc (wsuipa)  
 16801 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)  
 16802 \DeclareTextCommand{\textrtaild}{PU}{\82\126}%\* U+0256  
 16803 %\* \textrtaild -> \taild (wsuipa)  
 16804 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)  
 16805 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257  
 16806 %\* \texthtd -> \hookd (wsuipa)  
 16807 %\* \texthtd -> \hausad (phonetic)  
 16808 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;  
 16809 % \textreve (tipa), \reve (wsuipa)  
 16810 \DeclareTextCommand{\textreve}{PU}{\82\130}%\* U+0258  
 16811 % U+0259 LATIN SMALL LETTER SCHWA; schwa;  
 16812 % \textschwa (tipa), \schwa (wsuipa, phonetic)

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16813 \DeclareTextCommand{\textschwa}{PU}{\82\131}%* U+0259
16814 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;
16815 % \textrhookswa (tipa)
16816 \DeclareTextCommand{\textrhookswa}{PU}{\82\132}% U+025A
16817 %* \textrhookswa -> \er (wsuipa)
16818 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-
      SILON; eopen;
16819 % \niepsilon (wsuipa)
16820 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}%* U+025B
16821 %* \textniepsilon -> \epsi (phonetic)
16822 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;
16823 % \textrepsilon (tipa), \revepsilon (wsuipa)
16824 \DeclareTextCommand{\textrepsilon}{PU}{\82\134}%* U+025C
16825 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-
      reversedhook;
16826 % \textrhookrepsilon (tipa)
16827 \DeclareTextCommand{\textrhookrepsilon}{PU}{\82\135}%* U+025D
16828 %* \textrhookrepsilon -> \hookrepsilon (wsuipa)
16829 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-
      versedclosed;
16830 % \textcloserepsilon (tipa)
16831 \DeclareTextCommand{\textcloserepsilon}{PU}{\82\136}% U+025E
16832 %* \textcloserepsilon -> \closedrepsilon (wsuipa)
16833 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-
      lessstroke;
16834 % \textbardotlessj (tipa)
16835 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F
16836 %* \textbardotlessj -> \barj (phonetic)
16837 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)
16838 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260
16839 %* \texthtg -> \hookg (wsuipa)
16840 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;
16841 % \textscriptg (tipa), \scriptg (wsuipa)
16842 \DeclareTextCommand{\textscriptg}{PU}{\82\141}%* U+0261
16843 %* \textscriptg -> \varg (phonetic)
16844 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)
16845 \DeclareTextCommand{\textscg}{PU}{\82\142}%* U+0262
16846 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;
16847 % \ipagamma (wsuipa), \vod (phonetic)
16848 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%* U+0263
16849 %* \textipagamma -> \vod (pnonetic)
16850 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;
16851 % \babygamma (wsuipa)
16852 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%* U+0264
16853 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)
16854 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265
16855 %* \textturnh -> \invh (wsuipa)
16856 %* \textturnh -> \udesc (phonetic)
16857 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)
16858 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266

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16859 %\* \texthth -> \hookh (wsuipa)  
 16860 %\* \texthth -> \voicedh (phonetic)  
 16861 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \texththeng (tipa)  
 16862 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267  
 16863 %\* \texththeng -> \hookheng (wsuipa)  
 16864 % U+0268 LATIN SMALL LETTER I WITH STROKE;  
 16865 % \textbari (tipa), \bari (wsuipa)  
 16866 \DeclareTextCommand{\textbari}{PU}{\82\150}%\* U+0268  
 16867 %\* \textbari -> \ibar (phonetic)  
 16868 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)  
 16869 \DeclareTextCommand{\textniiota}{PU}{\82\151}%\* U+0269  
 16870 %\* \textniiota -> \vari (phonetic)  
 16871 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)  
 16872 \DeclareTextCommand{\textsci}{PU}{\82\152}%\* U+026A  
 16873 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;  
 16874 % \textltilde (tipa)  
 16875 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B  
 16876 %\* \textltilde -> \tildel (wsuipa)  
 16877 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)  
 16878 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C  
 16879 %\* \textbeltl -> \latfric (wsuipa)  
 16880 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;  
 16881 % lhookretroflex; \textrtail (tipa)  
 16882 \DeclareTextCommand{\textrtail}{PU}{\82\155}% U+026D  
 16883 %\* \textrtail -> \tail (wsuipa)  
 16884 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)  
 16885 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E  
 16886 %\* \textlyoghlig -> \lz (wsuipa)  
 16887 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)  
 16888 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F  
 16889 %\* \textturnm -> \invm (wsuipa)  
 16890 %\* \textturnm -> \rotm (phonetic)  
 16891 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlonglegturned;  
 16892 % \textturnmrleg (tipa)  
 16893 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270  
 16894 %\* \textturnmrleg -> \legm (wsuipa)  
 16895 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)  
 16896 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271  
 16897 %\* \textltailm -> \labdentalnas (wsuipa)  
 16898 %\* \textltailm -> \emgma (phonetic)  
 16899 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textltailn (tipa)  
 16900 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272  
 16901 %\* \textltailn -> \nj (wsuipa)  
 16902 %\* \textltailn -> \enya (phonetic)  
 16903 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;  
 16904 % nhookretroflex; \textrtailn (tipa)  
 16905 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273

16906 %\* \textrtailn -> \tailn (wsuipa)  
 16907 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)  
 16908 \DeclareTextCommand{\textscn}{PU}{\82\164}%\* U+0274  
 16909 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/  
 16910 % LATIN CAPITAL LETTER BARRED O; obarred;  
 16911 % \textbaro (tipa), \baro (wsuipa)  
 16912 % But \baro from stmaryrd is different!  
 16913 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275  
 16914 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscoe (tipa)  
 16915 \DeclareTextCommand{\textscoe}{PU}{\82\166}% U+0276  
 16916 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;  
 16917 % \textcloseomega (tipa)  
 16918 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277  
 16919 %\* \textcloseomega -> \closedniomega (wsuipa)  
 16920 %\* \textcloseomega -> \varomega (phonetic)  
 16921 % U+0278 LATIN SMALL LETTER PHI; philatin; \nphi (wsuipa)  
 16922 \DeclareTextCommand{\textnphi}{PU}{\82\170}%\* U+0278  
 16923 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)  
 16924 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279  
 16925 %\* \textturnr -> \invr (wsuipa)  
 16926 %\* \textturnr -> \rotr (phonetic)  
 16927 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;  
 16928 % rlonglegturned; \textturnlongleg (tipa)  
 16929 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A  
 16930 %\* \textturnlongleg -> \invleg (wsuipa)  
 16931 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhocturned;  
 16932 % \textturnrrtail (tipa)  
 16933 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B  
 16934 %\* \textturnrrtail -> \tailinvr (wsuipa)  
 16935 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlongleg (tipa)  
 16936 \DeclareTextCommand{\textlongleg}{PU}{\82\174}%\* U+027C  
 16937 %\* \textlongleg -> \leg (wsuipa)  
 16938 % U+027D LATIN SMALL LETTER R WITH TAIL; rhoctail; \textrtailr (tipa)  
 16939 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D  
 16940 %\* \textrtailr -> \tailr (wsuipa)  
 16941 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;  
 16942 % \textfishhookr (tipa)  
 16943 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E  
 16944 %\* \textfishhookr -> \flapr (wsuipa)  
 16945 %\* \textfishhookr -> \flap (phonetic)  
 16946 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfishhookreversed;  
 16947 % \textlhtlongi (tipa)  
 16948 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F  
 16949 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)  
 16950 \DeclareTextCommand{\textscr}{PU}{\82\200}%\* U+0280  
 16951 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;  
 16952 % \textinvscr (tipa), \invscr (wsuipa)  
 16953 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%\* U+0281

16954 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \texttrails (tipa)  
 16955 \DeclareTextCommand{\texttrails}{PU}{\82\202}% U+0282  
 16956 %\* \texttrails -> \tails (wsuipa)  
 16957 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)  
 16958 \DeclareTextCommand{\textesh}{PU}{\82\203}%\* U+0283  
 16959 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;  
 16960 % dotlessstrokehook; \texthtbardotlessj (tipa)  
 16961 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284  
 16962 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquat-  
 versed;  
 16963 % \textvibi (tipa)  
 16964 \DeclareTextCommand{\textvibi}{PU}{\82\205}% U+0285  
 16965 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)  
 16966 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286  
 16967 %\* \textctesh -> \curlyesh (wsuipa)  
 16968 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)  
 16969 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287  
 16970 %\* \textturnt -> \clickt (wsuipa)  
 16971 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflex-  
 hook;  
 16972 % \texttrtailt (tipa)  
 16973 \DeclareTextCommand{\texttrtailt}{PU}{\82\210}% U+0288  
 16974 %\* \texttrtailt -> \tailt (wsuipa)  
 16975 % U+0289 LATIN SMALL LETTER U BAR; ubar;  
 16976 % \textbaru (tipa), \baru (wsuipa)  
 16977 \DeclareTextCommand{\textbaru}{PU}{\82\211}%\* U+0289  
 16978 %\* \textbaru -> \ubar (phonetic)  
 16979 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)  
 16980 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%\* U+028A  
 16981 %\* \textniupsilon -> \rotOmega (phonetic)  
 16982 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LET-  
 TER SCRIPT V;  
 16983 % vhook; \textscriptv (tipa), \scriptv (wsuipa)  
 16984 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%\* U+028B  
 16985 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)  
 16986 \DeclareTextCommand{\textturnv}{PU}{\82\214}%\* U+028C  
 16987 %\* \textturnv -> \invv (wsuipa)  
 16988 %\* \textturnv -> \pwedge (phonetic)  
 16989 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)  
 16990 \DeclareTextCommand{\textturnw}{PU}{\82\215}%\* U+028D  
 16991 %\* \textturnw -> \invw (wsuipa)  
 16992 %\* \textturnw -> \rotw (phonetic)  
 16993 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)  
 16994 \DeclareTextCommand{\textturny}{PU}{\82\216}%\* U+028E  
 16995 %\* \textturny -> \invy (wsuipa)  
 16996 %\* \textturny -> \roty (phonetic)  
 16997 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)  
 16998 \DeclareTextCommand{\textscy}{PU}{\82\217}%\* U+028F  
 16999 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-  
 hook;

17000 % \textrtailz (tipa)  
17001 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290  
17002 %\* \textrtailz -> \tailz (wsuipa)  
17003 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)  
17004 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291  
17005 %\* \textctz -> \curlyz (wsuipa)  
17006 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;  
17007 % \textyogh (tipa), \yogh (wsuipa)  
17008 \DeclareTextCommand{\textyogh}{PU}{\82\222}%\* U+0292  
17009 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LETTER YOGH CURL;  
17010 % ezhcurl; \textctyogh (tipa)  
17011 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293  
17012 %\* \textctyogh -> \curlyyogh (wsuipa)  
17013 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;  
17014 % \textglotstop (tipa), \glotstop (wsuipa)  
17015 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%\* U+0294  
17016 %\* \textglotstop -> \ejective (wsuipa)  
17017 %\* \textglotstop -> \glottal (phonetic)  
17018 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/  
17019 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;  
17020 % \textrevglotstop (tipa), \revglotstop (wsuipa)  
17021 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%\* U+0295  
17022 %\* \textrevglotstop -> \reveject (wsuipa)  
17023 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;  
17024 % \textinvglotstop (tipa), \invglotstop (wsuipa)  
17025 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%\* U+0296  
17026 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)  
17027 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297  
17028 %\* \textstretchc -> \clickc (wsuipa)  
17029 %\* \textstretchc -> \textstretchcvar (tipx)  
17030 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;  
17031 % \textbullseye (tipa)  
17032 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298  
17033 %\* \textbullseye -> \clickb (wsuipa)  
17034 %\* \textbullseye -> \textObullseye (tipx)  
17035 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)  
17036 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299  
17037 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;  
17038 % \textcloseepsilon (tipa)  
17039 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A  
17040 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;  
17041 % \texthtscg (tipa)  
17042 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B  
17043 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)  
17044 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C  
17045 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossed-tail; \textcdj (tipa)  
17046 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D  
17047 %\* \textctj -> \textctjvar (tipx)

17048 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)  
 17049 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E  
 17050 %\* \textturnk -> \textturnsck (tipx)  
 17051 % U+029F LATIN LETTER SMALL CAPITAL L; \textscL (tipa)  
 17052 \DeclareTextCommand{\textscL}{PU}{\82\237}% U+029F  
 17053 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)  
 17054 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0  
 17055 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-stroke;  
 17056 % \textbarglotstop (tipa)  
 17057 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1  
 17058 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/  
 17059 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokereversed;  
 17060 % \textbarrevglotstop (tipa)  
 17061 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2  
 17062 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)  
 17063 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3  
 17064 %\* \textdzlig -> \dz (wsupipa)  
 17065 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyoghlig (tipa)  
 17066 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4  
 17067 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;  
 17068 % \textdctzlig (tipa)  
 17069 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5  
 17070 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)  
 17071 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6  
 17072 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \texttshlig (tipa)  
 17073 \DeclareTextCommand{\texttshlig}{PU}{\82\247}% U+02A7  
 17074 %\* \texttshlig -> \tesh (wsuipa)  
 17075 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;  
 17076 % \texttctclig (tipa)  
 17077 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8  
 17078 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;  
 17079 % \textlhtlongy (tipa)  
 17080 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE  
 17081 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;  
 17082 % \textvibyy (tipa)  
 17083 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

### 51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

17084 % U+02BD MODIFIER LETTER REVERSED COMMA;  
 17085 % commareversedmod, afi64937; \textrevapostrophe (tipa)  
 17086 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD  
 17087 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;  
 17088 % \textraiseglotstop (tipa)  
 17089 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0  
 17090 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;  
 17091 % \textlptr (tipa)  
 17092 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2

17093 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;  
 17094 % \textrprr (tipa)  
 17095 \DeclareTextCommand{\textrprr}{PU}{\82\303}% U+02C3  
 17096 % U+02C7 CARON; caron  
 17097 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 17098 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticalinmod;  
 17099 % \textprimstress (tipa)  
 17100 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8  
 17101 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticalinlowmod;  
 17102 % \textsecstress (tipa)  
 17103 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC  
 17104 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;  
 17105 % \textlengthmark (tipa)  
 17106 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0  
 17107 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangularhalfmod;  
 17108 % \texthalflength (tipa)  
 17109 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1  
 17110 % U+02D8 BREVE; breve  
 17111 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 17112 % U+02D9 DOT ABOVE; dotaccent  
 17113 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 17114 % U+02DA RING ABOVE; ring  
 17115 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 17116 % U+02DB OGONEK; ogonek  
 17117 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 17118 % U+02DC SMALL TILDE; ilde, \*tilde  
 17119 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 17120 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 17121 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 17122 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD  
 17123 % U+02F3 MODIFIER LETTER LOW RING  
 17124 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3  
 17125 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 17126 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 17127 % U+02F7 MODIFIER LETTER LOW TILDE  
 17128 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7  
 17129 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)  
 17130 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9  
 17131 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)  
 17132 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

### 51.2.8 Combining Diacritical Marks: U+0300 to U+036F

17133 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 17134 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 17135 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 17136 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 17137 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
 17138 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 17139 % U+0331 COMBINING MACRON BELOW; macronbelowcmb

17140 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 17141 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 17142 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

### 51.2.9 Greek and Coptic: U+0370 to U+03FF

17143 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 17144 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 17145 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 17146 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 17147 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos  
 17148 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 17149 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 17150 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 17151 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 17152 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 17153 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 17154 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 17155 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos  
 17156 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 17157 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos  
 17158 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 17159 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 17160 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
 17161 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;  
 17162 % iotadieresis  
 17163 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
 17164 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
 17165 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
 17166 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
 17167 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
 17168 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)  
 17169 \DeclareTextCommand{\textGamma}{PU}{\83\223}%\* U+0393  
 17170 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta; \Delta (LaTeX)  
 17171 \DeclareTextCommand{\textDelta}{PU}{\83\224}%\* U+0394  
 17172 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
 17173 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
 17174 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
 17175 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
 17176 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
 17177 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
 17178 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)  
 17179 \DeclareTextCommand{\textTheta}{PU}{\83\230}%\* U+0398  
 17180 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
 17181 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
 17182 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
 17183 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
 17184 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)

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17185 \DeclareTextCommand{\textLambda}{PU}{\83\233}%* U+039B
17186 % U+039C GREEK CAPITAL LETTER MU; Mu
17187 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
17188 % U+039D GREEK CAPITAL LETTER NU; Nu
17189 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
17190 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)
17191 \DeclareTextCommand{\textXi}{PU}{\83\236}%* U+039E
17192 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
17193 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
17194 % U+03A0 GREEK CAPITAL LETTER PI; Pi
17195 \DeclareTextCommand{\textPi}{PU}{\83\240}%* U+03A0
17196 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
17197 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
17198 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)
17199 \DeclareTextCommand{\textSigma}{PU}{\83\243}%* U+03A3
17200 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
17201 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
17202 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)
17203 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%* U+03A5
17204 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)
17205 \DeclareTextCommand{\textPhi}{PU}{\83\246}%* U+03A6
17206 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
17207 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
17208 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)
17209 \DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8
17210 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega;
17211 % \Omega (LaTeX)
17212 \DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9
17213 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
17214 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
17215 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
17216 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
    silondieresis
17217 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
17218 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
17219 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}%* U+03AC
17220 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
17221 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
17222 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
17223 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
17224 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
17225 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
17226 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA
17227 % AND TONOS; upsilondieresis
17228 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0
17229 % U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)
17230 \DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1
17231 % U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)
17232 \DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2
17233 % U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)

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17234 \DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3
17235 % U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)
17236 \DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4
17237 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)
17238 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5
17239 % U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)
17240 \DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6
17241 % U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)
17242 \DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7
17243 % U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)
17244 \DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8
17245 % U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)
17246 \DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9
17247 % U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)
17248 \DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA
17249 % U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)
17250 \DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB
17251 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu; \mu (LaTeX)
17252 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC
17253 % U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)
17254 \DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD
17255 % U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)
17256 \DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE
17257 % U+03BF GREEK SMALL LETTER OMICRON; omicron
17258 \DeclareTextCommand{\textomicron}{PU}{\83\277}%* U+03BF
17259 % U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)
17260 \DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0
17261 % U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)
17262 \DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1
17263 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
17264 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2
17265 % U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)
17266 \DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3
17267 % U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)
17268 \DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4
17269 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)
17270 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5
17271 % U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)
17272 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
17273 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)
17274 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
17275 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)
17276 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
17277 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)
17278 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
17279 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
17280 \DeclareTextCompositeCommand{\"}{PU}{\textiota}{\83\312}% U+03CA
17281 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
      silondieresis
17282 \DeclareTextCompositeCommand{\"}{PU}{\textupsilon}{\83\313}% U+03CB

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17283 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
17284 \DeclareTextCompositeCommand{\'}{PU}{\textomicron}{\83\314}% U+03CC
17285 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
17286 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
17287 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}% U+03CD
17288 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
17289 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}% U+03CE
17290 % U+03DA GREEK LETTER STIGMA; Stigmatagreek
17291 \DeclareTextCommand{\textStigmatagreek}{PU}{\83\332}% U+03DA
17292 % U+03DB GREEK SMALL LETTER STIGMA
17293 \DeclareTextCommand{\textstigmatagreek}{PU}{\83\333}% U+03DB
17294 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
17295 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
17296 % U+03DD GREEK SMALL LETTER DIGAMMA
17297 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
17298 %* \textdigammagreek -> \digamma (AmS)
17299 % U+03DE GREEK LETTER KOPPA; Koppagreek
17300 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
17301 % U+03DF GREEK SMALL LETTER KOPPA
17302 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
17303 % U+03E0 GREEK LETTER SAMPI; Sampigreek
17304 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
17305 % U+03E1 GREEK SMALL LETTER SAMPI
17306 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1
17307 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;
17308 % \backepsilon (AmS)
17309 \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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17310 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
17311 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
17312 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
17313 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
17314 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\001}% U+0401
17315 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
17316 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
17317 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
17318 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
17319 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
17320 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
17321 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
17322 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
17323 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;
17324 % Icyrillic, *afii10055
17325 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
17326 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
17327 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407

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17328 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407  
17329 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
17330 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
17331 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
17332 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
17333 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
17334 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
17335 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
17336 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
17337 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
17338 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
17339 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
17340 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
17341 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
17342 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
17343 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
17344 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
17345 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
17346 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
17347 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
17348 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
17349 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
17350 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
17351 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
17352 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
17353 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
17354 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
17355 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
17356 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
17357 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
17358 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
17359 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
17360 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
17361 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
17362 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
17363 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
17364 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
17365 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
17366 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
17367 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
17368 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
17369 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
17370 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
17371 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
17372 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
17373 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
17374 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
17375 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
17376 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
17377 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033

17378 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
17379 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
17380 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
17381 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
17382 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
17383 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
17384 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
17385 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
17386 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
17387 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
17388 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
17389 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
17390 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
17391 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
17392 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
17393 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
17394 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
17395 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
17396 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
17397 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
17398 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
17399 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;  
17400 % Hardsigncyrillic, \*afii10044  
17401 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
17402 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
17403 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
17404 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;  
17405 % Softsigncyrillic, \*afii10046  
17406 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
17407 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
17408 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
17409 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
17410 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
17411 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
17412 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
17413 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
17414 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
17415 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
17416 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
17417 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
17418 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
17419 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
17420 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
17421 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
17422 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
17423 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
17424 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
17425 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
17426 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436  
17427 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic

17428 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
17429 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
17430 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
17431 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
17432 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
17433 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
17434 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
17435 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
17436 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
17437 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B  
17438 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
17439 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
17440 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
17441 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
17442 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
17443 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
17444 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
17445 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
17446 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
17447 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
17448 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
17449 \DeclareTextCommand{\cyr{s}}{PU}{\84\101}% U+0441  
17450 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
17451 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
17452 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
17453 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
17454 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
17455 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
17456 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
17457 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
17458 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
17459 \DeclareTextCommand{\cyr{c}}{PU}{\84\106}% U+0446  
17460 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
17461 \DeclareTextCommand{\cyr{ch}}{PU}{\84\107}% U+0447  
17462 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
17463 \DeclareTextCommand{\cyr{sh}}{PU}{\84\110}% U+0448  
17464 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
17465 \DeclareTextCommand{\cyr{shch}}{PU}{\84\111}% U+0449  
17466 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
17467 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
17468 %\* \cyrhrdsn -> \hardsign (tipa)  
17469 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
17470 \DeclareTextCommand{\cyr{ery}}{PU}{\84\113}% U+044B  
17471 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
17472 \DeclareTextCommand{\cyr{sftsn}}{PU}{\84\114}% U+044C  
17473 %\* \cyr{sftsn} -> \softsign (tipa)  
17474 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
17475 \DeclareTextCommand{\cyr{rev}}{PU}{\84\115}% U+044D  
17476 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic

17477 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E  
17478 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
17479 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F  
17480 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
17481 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
17482 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
17483 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451  
17484 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
17485 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
17486 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
17487 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
17488 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
17489 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
17490 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
17491 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
17492 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
17493 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;  
17494 % \*afii10103, icyrillic  
17495 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
17496 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
17497 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
17498 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
17499 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
17500 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
17501 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
17502 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459  
17503 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
17504 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
17505 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
17506 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
17507 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
17508 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
17509 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
17510 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
17511 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
17512 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
17513 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
17514 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
17515 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
17516 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
17517 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
17518 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
17519 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
17520 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
17521 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
17522 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
17523 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
17524 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
17525 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
17526 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic

17527 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
 17528 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
 17529 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
 17530 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
 17531 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
 17532 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-  
 otifiedcyrillic  
 17533 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
 17534 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-  
 fiedcyrillic  
 17535 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
 17536 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
 17537 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
 17538 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
 17539 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
 17540 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
 cyrillic  
 17541 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
 17542 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-  
 cyrillic  
 17543 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
 17544 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
 17545 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
 17546 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
 17547 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
 17548 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
 17549 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
 17550 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
 17551 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
 17552 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
 17553 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
 17554 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
 17555 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
 17556 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
 17557 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
 17558 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
 17559 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
 17560 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE  
 17561 % GRAVE ACCENT; Izhitsadblgravecyrillic  
 17562 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
 17563 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE  
 17564 % GRAVE ACCENT; izhitsadblgravecyrillic  
 17565 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 17566 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 17567 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 17568 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 17569 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 17570 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-  
 lic  
 17571 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A

17572 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 17573 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 17574 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-  
 cyrillic  
 17575 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 17576 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-  
 cyrillic  
 17577 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 17578 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 17579 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 17580 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 17581 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 17582 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 17583 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 17584 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 17585 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 17586 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 17587 \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; dasiapneu-  
 matacyrilliccmb  
 \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  
 17588 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 17589 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 17590 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 17591 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 17592 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 17593 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 17594 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 17595 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 17596 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 17597 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 17598 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 17599 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 17600 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-  
 cyrillic, \*afii10050  
 17601 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 17602 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, ghe-  
 upturncyrillic  
 17603 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 17604 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-  
 cyrillic



17605 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
17606 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
17607 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
17608 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;  
17609 % Ghemiddlehookcyrillic  
17610 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
17611 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;  
17612 % ghemiddlehookcyrillic  
17613 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
17614 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;  
17615 % Zhedescendercyrillic  
17616 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
17617 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;  
17618 % zhedescendercyrillic  
17619 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
17620 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-  
dercyrillic  
17621 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
17622 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
17623 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-  
cyrillic  
17624 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
17625 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
17626 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-  
dercyrillic  
17627 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
17628 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescen-  
dercyrillic  
17629 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
17630 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;  
17631 % Kaverticallstrokecyrillic  
17632 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
17633 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;  
17634 % kaverticallstrokecyrillic  
17635 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
17636 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
17637 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
17638 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
17639 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
17640 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
17641 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
17642 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
17643 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
17644 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-  
dercyrillic  
17645 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
17646 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-  
cyrillic  
17647 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
17648 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic

17649 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
17650 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
17651 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
17652 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
17653 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
17654 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
17655 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
17656 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
17657 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
17658 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
17659 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
17660 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
17661 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
17662 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
17663 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
17664 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
17665 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB  
17666 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
17667 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
17668 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
17669 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
17670 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
17671 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
17672 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
17673 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF  
17674 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
17675 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
17676 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic  
17677 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1  
17678 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic  
17679 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
17680 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
17681 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
17682 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
17683 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
17684 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
17685 \DeclareTextCommand{\cyr tetse}{PU}{\84\265}% U+04B5  
17686 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;  
17687 % Chedescendercyrillic

17688 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
17689 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
17690 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
17691 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;  
17692 % Cheverticalstrokecyrillic  
17693 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
17694 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;  
17695 % cheverticalstrokecyrillic  
17696 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
17697 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
17698 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
17699 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
17700 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
17701 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic  
17702 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
17703 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
17704 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
17705 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic  
17706 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
17707 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
17708 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic  
17709 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
17710 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
17711 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
17712 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
17713 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
17714 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
17715 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
17716 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
17717 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
17718 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
17719 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
17720 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
17721 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
17722 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
17723 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
17724 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
17725 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
17726 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
17727 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
17728 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
17729 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic  
17730 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
17731 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-

cyrillic

17732 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC

17733 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL

17734 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD

17735 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL

17736 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE

\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA

17737 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic

17738 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0

17739 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic

17740 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1

17741 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic

17742 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2

17743 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic

17744 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3

17745 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic

17746 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4

17747 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic

17748 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5

17749 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevcyrillic

17750 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6

17751 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevcyrillic

17752 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7

17753 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic

17754 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8

17755 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic

17756 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9

17757 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;

17758 % Schwadieresiscyrillic

17759 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA

17760 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;

17761 % schwadieresiscyrillic

17762 \DeclareTextCompositeCommand{\U}{PU}{\cyrschwa}{\84\333}% U+04DB

17763 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic

17764 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC

17765 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic

17766 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\335}% U+04DD

17767 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic

17768 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE

17769 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic

17770 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF

17771 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic

17772 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0

17773 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyril-  
 lic  
 17774 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
 17775 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
 17776 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2  
 17777 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
 17778 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3  
 17779 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
 17780 \DeclareTextCompositeCommand{\"}{PU}{\CYRI}{\84\344}% U+04E4  
 17781 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
 17782 \DeclareTextCompositeCommand{\"}{PU}{\cyri}{\84\345}% U+04E5  
 17783 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyril-  
 lic  
 17784 \DeclareTextCompositeCommand{\"}{PU}{\CYRO}{\84\346}% U+04E6  
 17785 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
 17786 \DeclareTextCompositeCommand{\"}{PU}{\cyro}{\84\347}% U+04E7  
 17787 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarreddcyrillic  
 17788 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
 17789 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarreddcyrillic  
 17790 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
 17791 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;  
 17792 % Obarreddieresiscyrillic  
 17793 \DeclareTextCompositeCommand{\"}{PU}{\CYROTLD}{\84\352}% U+04EA  
 17794 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;  
 17795 % obarreddieresiscyrillic  
 17796 \DeclareTextCompositeCommand{\"}{PU}{\cyrotld}{\84\353}% U+04EB  
 17797 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
 17798 \DeclareTextCompositeCommand{\"}{PU}{\CYREREV}{\84\354}% U+04EC  
 17799 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
 17800 \DeclareTextCompositeCommand{\"}{PU}{\cyreref}{\84\355}% U+04ED  
 17801 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
 17802 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE  
 17803 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
 17804 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF  
 17805 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyril-  
 lic  
 17806 \DeclareTextCompositeCommand{\"}{PU}{\CYRU}{\84\360}% U+04F0  
 17807 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
 17808 \DeclareTextCompositeCommand{\"}{PU}{\cyru}{\84\361}% U+04F1  
 17809 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-  
 garumlautcyrillic  
 17810 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
 17811 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-  
 garumlautcyrillic  
 17812 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
 17813 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-  
 siscyrillic  
 17814 \DeclareTextCompositeCommand{\"}{PU}{\CYRCH}{\84\364}% U+04F4  
 17815 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresis-  
 cyrillic

17816 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 17817 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 17818 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 17819 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 17820 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 17821 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-  
 siscyrillic  
 17822 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 17823 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-  
 siscyrillic  
 17824 \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  
 17825 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 17826 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 17827 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 17828 \DeclareTextCommand{\cyrhkh}{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`.

17829 % U+05C3 HEBREW PUNCTUATION SOF PASUQ  
 17830 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3  
 17831 % U+05D0 HEBREW LETTER ALEF  
 17832 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0  
 17833 % U+05D1 HEBREW LETTER BET  
 17834 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1  
 17835 % U+05D2 HEBREW LETTER GIMEL  
 17836 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2  
 17837 % U+05D3 HEBREW LETTER DALET  
 17838 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3  
 17839 % U+05D4 HEBREW LETTER HE  
 17840 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4  
 17841 % U+05D5 HEBREW LETTER VAV  
 17842 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5  
 17843 % U+05D6 HEBREW LETTER ZAYIN  
 17844 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6  
 17845 % U+05D7 HEBREW LETTER HET  
 17846 \DeclareTextCommand{\hebhet}{PU}{\85\327}% U+05D7  
 17847 % U+05D8 HEBREW LETTER TET  
 17848 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8  
 17849 % U+05D9 HEBREW LETTER YOD  
 17850 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9  
 17851 % U+05DA HEBREW LETTER FINAL KAF

17852 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA  
 17853 % U+05DB HEBREW LETTER KAF  
 17854 \DeclareTextCommand{\hebkafe}{PU}{\85\333}% U+05DB  
 17855 % U+05DC HEBREW LETTER LAMED  
 17856 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC  
 17857 % U+05DD HEBREW LETTER FINAL MEM  
 17858 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD  
 17859 % U+05DE HEBREW LETTER MEM  
 17860 \DeclareTextCommand{\hebmem}{PU}{\85\336}% U+05DE  
 17861 % U+05DF HEBREW LETTER FINAL NUN  
 17862 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF  
 17863 % U+05E0 HEBREW LETTER NUN  
 17864 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0  
 17865 % U+05E1 HEBREW LETTER SAMEKH  
 17866 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1  
 17867 % U+05E2 HEBREW LETTER AYIN  
 17868 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2  
 17869 % U+05E3 HEBREW LETTER FINAL PE  
 17870 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3  
 17871 % U+05E4 HEBREW LETTER PE  
 17872 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4  
 17873 % U+05E5 HEBREW LETTER FINAL TSADI  
 17874 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5  
 17875 % U+05E6 HEBREW LETTER TSADI  
 17876 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6  
 17877 % U+05E7 HEBREW LETTER QOF  
 17878 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7  
 17879 % U+05E8 HEBREW LETTER RESH  
 17880 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8  
 17881 % U+05E9 HEBREW LETTER SHIN  
 17882 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9  
 17883 %\* \hebshin -> \hebsin (he8)  
 17884 % U+05EA HEBREW LETTER TAV  
 17885 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA  
 17886 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV  
 17887 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0  
 17888 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD  
 17889 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1  
 17890 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD  
 17891 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2

### 51.2.12 Thai: U+0E00 to U+0E7F

17892 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 17893 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

### 51.2.13 Phonetic Extensions: U+1D00 to U+1D7F

17894 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textsca (tipa)  
 17895 \DeclareTextCommand{\textsca}{PU}{\9035\000}% U+1D00  
 17896 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)

17897 \DeclareTextCommand{\textscd}{PU}{\9035\005}%\* U+1D05  
17898 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textsce (tipa)  
17899 \DeclareTextCommand{\textsce}{PU}{\9035\007}% U+1D07  
17900 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscj (tipa)  
17901 \DeclareTextCommand{\textscj}{PU}{\9035\012}% U+1D0A  
17902 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textsck (tipx)  
17903 \DeclareTextCommand{\textPUscck}{PU}{\9035\013}% U+1D0B  
17904 %\* \textPUscck -> \textscck (tipx)  
17905 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscm (tipx)  
17906 \DeclareTextCommand{\textPUscm}{PU}{\9035\015}% U+1D0D  
17907 %\* \textPUscm -> \textscm (tipx)  
17908 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscp (tipx)  
17909 \DeclareTextCommand{\textPUscp}{PU}{\9035\030}% U+1D18  
17910 %\* \textPUscp -> \textscp (tipx)  
17911 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)  
17912 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19  
17913 %\* \textPUrevscr -> \textrevscr (tipx)  
17914 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscu (tipa), \scu (wsuipa)  
17915 \DeclareTextCommand{\textscu}{PU}{\9035\034}%\* U+1D1C  
17916 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I  
17917 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}%\* U+1D62  
17918 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R  
17919 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}%\* U+1D63  
17920 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U  
17921 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}%\* U+1D64  
17922 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V  
17923 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}%\* U+1D65  
17924 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA  
17925 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%\* U+1D66  
17926 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA  
17927 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%\* U+1D67  
17928 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO  
17929 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%\* U+1D68  
17930 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI  
17931 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%\* U+1D69  
17932 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI  
17933 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%\* U+1D6A  
17934 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;  
17935 % \barsci (wsuipa)  
17936 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%\* U+1D7B  
17937 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)  
17938 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%\* U+1D7D  
17939 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;  
17940 % \barscu (wsuipa)  
17941 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%\* U+1D7E

#### 51.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

17942 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-  
trhooka (tipx)  
17943 \DeclareTextCommand{\textPUrhooka}{PU}{\9035\217}% U+1D8F



17944 %\* \textPURhooka -> \textrhooka (tipx)  
 17945 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-  
 taild (tipa)  
 17946 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%\* U+1D91  
 17947 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-  
 trhooke (tipx)  
 17948 \DeclareTextCommand{\textPURhooke}{PU}{\9035\222}% U+1D92  
 17949 %\* \textPURhooke -> \textrhooke (tipx)  
 17950 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;  
 17951 % \textrhookepsilon (tipx)  
 17952 \DeclareTextCommand{\textPURhookepsilon}{PU}{\9035\223}% U+1D93  
 17953 %\* \textPURhookepsilon -> \textrhookepsilon (tipx)  
 17954 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;  
 17955 % \textrhookopeno (tipx)  
 17956 \DeclareTextCommand{\textPURhookopeno}{PU}{\9035\227}% U+1D97  
 17957 %\* \textPURhookopeno -> \textrhookopeno (tipx)

#### 51.2.15 Latin Extended Additional: U+1E00 to U+1EFF

17958 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow  
 17959 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00  
 17960 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow  
 17961 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01  
 17962 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 17963 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02  
 17964 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 17965 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03  
 17966 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow  
 17967 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04  
 17968 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow  
 17969 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05  
 17970 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 17971 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
 17972 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 17973 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
 17974 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 17975 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
 17976 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 17977 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
 17978 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow  
 17979 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C  
 17980 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow  
 17981 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D  
 17982 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
 17983 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
 17984 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
 17985 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
 17986 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
 17987 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
 17988 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
 17989 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11

17990 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-  
cumflexbelow  
17991 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12  
17992 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-  
cumflexbelow  
17993 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13  
17994 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;  
17995 % Emacrongrave  
17996 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14  
17997 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;  
17998 % emacrongrave  
17999 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15  
18000 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;  
18001 % Emacronacute  
18002 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16  
18003 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;  
18004 % emacronacute  
18005 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17  
18006 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-  
cumflexbelow  
18007 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18  
18008 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-  
cumflexbelow  
18009 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19  
18010 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow  
18011 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A  
18012 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow  
18013 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B  
18014 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
18015 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
18016 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
18017 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
18018 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
18019 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
18020 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
18021 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
18022 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
18023 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
18024 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
18025 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
18026 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow  
18027 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24  
18028 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow  
18029 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25  
18030 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
18031 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
18032 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
18033 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
18034 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
18035 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28

18036 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
 18037 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
 18038 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow  
 18039 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A  
 18040 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow  
 18041 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B  
 18042 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow  
 18043 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C  
 18044 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow  
 18045 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D  
 18046 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
 18047 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
 18048 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
 18049 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
 18050 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow  
 18051 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32  
 18052 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow  
 18053 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33  
 18054 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
 18055 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
 18056 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
 18057 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
 18058 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow  
 18059 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36  
 18060 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow  
 18061 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37  
 18062 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
 18063 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
 18064 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
 18065 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
 18066 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-  
 cumflexbelow  
 18067 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C  
 18068 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-  
 cumflexbelow  
 18069 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D  
 18070 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
 18071 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
 18072 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
 18073 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
 18074 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
 18075 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
 18076 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
 18077 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
 18078 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow  
 18079 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42  
 18080 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow  
 18081 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43  
 18082 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
 18083 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44

18084 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
 18085 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
 18086 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow  
 18087 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46  
 18088 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow  
 18089 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47  
 18090 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
 18091 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
 18092 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
 18093 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
 18094 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-  
 cumflexbelow  
 18095 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A  
 18096 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-  
 cumflexbelow  
 18097 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B  
 18098 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;  
 18099 % Omacrongrave  
 18100 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50  
 18101 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;  
 18102 % omacrongrave  
 18103 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51  
 18104 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;  
 18105 % Omacronacute  
 18106 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52  
 18107 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;  
 18108 % omacronacute  
 18109 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53  
 18110 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
 18111 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
 18112 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
 18113 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
 18114 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
 18115 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
 18116 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
 18117 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
 18118 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
 18119 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
 18120 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
 18121 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
 18122 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow  
 18123 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A  
 18124 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow  
 18125 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B  
 18126 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
 18127 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
 18128 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
 18129 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
 18130 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
 18131 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60

18132 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
18133 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
18134 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow  
18135 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62  
18136 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow  
18137 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63  
18138 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent  
18139 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A  
18140 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent  
18141 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B  
18142 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow  
18143 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C  
18144 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow  
18145 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D  
18146 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
18147 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
18148 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
18149 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
18150 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-  
cumflexbelow  
18151 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70  
18152 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-  
cumflexbelow  
18153 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71  
18154 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-  
sisbelow  
18155 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72  
18156 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-  
sisbelow  
18157 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73  
18158 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow  
18159 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74  
18160 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow  
18161 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75  
18162 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-  
cumflexbelow  
18163 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76  
18164 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-  
cumflexbelow  
18165 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77  
18166 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
18167 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
18168 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
18169 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
18170 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow  
18171 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E  
18172 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow  
18173 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F  
18174 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
18175 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80

18176 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
18177 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\201}% U+1E81  
18178 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
18179 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
18180 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
18181 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
18182 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
18183 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
18184 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
18185 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
18186 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
18187 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
18188 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
18189 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
18190 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow  
18191 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88  
18192 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow  
18193 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89  
18194 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
18195 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
18196 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
18197 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
18198 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
18199 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
18200 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
18201 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
18202 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
18203 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
18204 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
18205 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
18206 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
18207 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
18208 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
18209 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
18210 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow  
18211 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92  
18212 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow  
18213 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93  
18214 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
18215 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
18216 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
18217 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
18218 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
18219 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
18220 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
18221 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
18222 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
18223 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
18224 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
18225 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99

18226 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent  
18227 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
18228 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow  
18229 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
18230 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow  
18231 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
18232 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow  
18233 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
18234 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow  
18235 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
18236 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
18237 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
18238 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
18239 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
18240 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow  
18241 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
18242 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow  
18243 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
18244 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow  
18245 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
18246 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow  
18247 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
18248 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow  
18249 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
18250 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow  
18251 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
18252 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
18253 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
18254 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
18255 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
18256 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow  
18257 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4  
18258 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow  
18259 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
18260 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
18261 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
18262 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
18263 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

#### 51.2.16 General Punctuation: U+2000 to U+206F

18264 % U+200C ZERO WIDTH NON-JOINER; \*afi61664, zerowidthnonjoiner  
18265 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
18266 % U+2013 EN DASH; endash  
18267 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
18268 % U+2014 EM DASH; emdash  
18269 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
18270 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
18271 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
18272 %\* \textbardbl -> \textdoublevertline (tipa)

18273 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
18274 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
18275 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
18276 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
18277 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
18278 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
18279 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
18280 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
18281 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
18282 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
18283 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
18284 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
18285 % U+2020 DAGGER; dagger  
18286 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%\* U+2020  
18287 %\* \textdagger -> \dag (LaTeX)  
18288 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
18289 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
18290 %\* \textdaggerdbl -> \ddagger (LaTeX)  
18291 %\* \textdaggerdbl -> \ddag (LaTeX)  
18292 % U+2022 BULLET; bullet  
18293 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%\* U+2022  
18294 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)  
18295 \DeclareTextCommand{\textthdotfor}{PU}{\9040\045}%\* U+2025  
18296 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
18297 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
18298 %\* \textellipsis -> \mathellipsis  
18299 % U+2030 PER MILLE SIGN; perthousand  
18300 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
18301 % U+2031 PER TEN THOUSAND SIGN  
18302 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
18303 % U+2032 PRIME; minute; \prime (MnSymbol)  
18304 \DeclareTextCommand{\textprime}{PU}{\9040\062}%\* U+2032  
18305 % U+2033 DOUBLE PRIME; \second (mathabx)  
18306 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%\* U+2033  
18307 % U+2034 TRIPLE PRIME; \third (mathabx)  
18308 \DeclareTextCommand{\textthird}{PU}{\9040\064}%\* U+2034  
18309 % U+2035 REVERSED PRIME; \backprime (AmS)  
18310 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%\* U+2035  
18311 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
inglleft  
18312 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
18313 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
inglright  
18314 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
18315 % U+203B REFERENCE MARK; referencemark  
18316 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
18317 % U+203D INTERROBANG  
18318 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
18319 % U+2044 FRACTION SLASH; fraction  
18320 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044



18321 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 18322 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 18323 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 18324 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 18325 % U+2052 COMMERCIAL MINUS SIGN  
 18326 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052  
 18327 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)  
 18328 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%\* U+2056  
 18329 % U+2057 QUADRUPLER PRIME; \fourth (mathabx)  
 18330 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%\* U+2057  
 18331 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)  
 18332 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%\* U+2058

### 51.2.17 Superscripts and Subscripts: U+2070 to U+209F

18333 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 18334 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%\* U+2070  
 18335 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I  
 18336 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%\* U+2071  
 18337 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 18338 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%\* U+2074  
 18339 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 18340 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%\* U+2075  
 18341 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 18342 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%\* U+2076  
 18343 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 18344 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%\* U+2077  
 18345 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 18346 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%\* U+2078  
 18347 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 18348 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%\* U+2079  
 18349 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 18350 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%\* U+207A  
 18351 % U+207B SUPERSCRIPT MINUS  
 18352 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%\* U+207B  
 18353 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 18354 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%\* U+207C  
 18355 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 18356 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%\* U+207D  
 18357 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 18358 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%\* U+207E  
 18359 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 18360 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%\* U+207F  
 18361 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 18362 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%\* U+2080  
 18363 % U+2081 SUBSCRIPT ONE; oneinferior  
 18364 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%\* U+2081  
 18365 % U+2082 SUBSCRIPT TWO; twoinferior  
 18366 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%\* U+2082  
 18367 % U+2083 SUBSCRIPT THREE; threeminferior  
 18368 \DeclareTextCommand{\textthreeminferior}{PU}{\9040\203}%\* U+2083

18369 % U+2084 SUBSCRIPT FOUR; fourinferior  
18370 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%\* U+2084  
18371 % U+2085 SUBSCRIPT FIVE; fiveinferior  
18372 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%\* U+2085  
18373 % U+2086 SUBSCRIPT SIX; sixinferior  
18374 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%\* U+2086  
18375 % U+2087 SUBSCRIPT SEVEN; seveninferior  
18376 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%\* U+2087  
18377 % U+2088 SUBSCRIPT EIGHT; eightinferior  
18378 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%\* U+2088  
18379 % U+2089 SUBSCRIPT NINE; nineinferior  
18380 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%\* U+2089  
18381 % U+208A SUBSCRIPT PLUS SIGN  
18382 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%\* U+208A  
18383 % U+208B SUBSCRIPT MINUS  
18384 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%\* U+208B  
18385 % U+208C SUBSCRIPT EQUALS SIGN  
18386 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%\* U+208C  
18387 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
18388 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%\* U+208D  
18389 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
18390 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%\* U+208E  
18391 % U+2090 LATIN SUBSCRIPT SMALL LETTER A  
18392 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%\* U+2090  
18393 % U+2091 LATIN SUBSCRIPT SMALL LETTER E  
18394 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%\* U+2091  
18395 % U+2092 LATIN SUBSCRIPT SMALL LETTER O  
18396 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%\* U+2092  
18397 % U+2093 LATIN SUBSCRIPT SMALL LETTER X  
18398 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%\* U+2093  
18399 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA  
18400 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%\* U+2094  
18401 % U+2095 LATIN SUBSCRIPT SMALL LETTER H  
18402 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%\* U+2095  
18403 % U+2096 LATIN SUBSCRIPT SMALL LETTER K  
18404 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%\* U+2096  
18405 % U+2097 LATIN SUBSCRIPT SMALL LETTER L  
18406 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%\* U+2097  
18407 % U+2098 LATIN SUBSCRIPT SMALL LETTER M  
18408 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%\* U+2098  
18409 % U+2099 LATIN SUBSCRIPT SMALL LETTER N  
18410 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%\* U+2099  
18411 % U+209A LATIN SUBSCRIPT SMALL LETTER P  
18412 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%\* U+209A  
18413 % U+209B LATIN SUBSCRIPT SMALL LETTER S  
18414 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%\* U+209B  
18415 % U+209C LATIN SUBSCRIPT SMALL LETTER T  
18416 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%\* U+209C

### 51.2.18 Currency Symbols: U+20A0 to U+20CF

```
18417 % U+20A1 COLON SIGN; *colonmonetary, colonsign
18418 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
18419 % U+20A4 LIRA SIGN; afii08941, *lira
18420 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
18421 % U+20A6 NAIRA SIGN
18422 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
18423 % U+20A7 PESETA SIGN; peseta
18424 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
18425 % U+20A9 WON SIGN; won
18426 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
18427 % U+20AB DONG SIGN; dong
18428 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
18429 % U+20AC EURO SIGN; *Euro, euro
18430 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
18431 %* \texteuro -> \EurDig (marvosym)
18432 %* \texteuro -> \EURdig (marvosym)
18433 %* \texteuro -> \EurHv (marvosym)
18434 %* \texteuro -> \EURhv (marvosym)
18435 %* \texteuro -> \EurCr (marvosym)
18436 %* \texteuro -> \EURcr (marvosym)
18437 %* \texteuro -> \EurTm (marvosym)
18438 %* \texteuro -> \EURtm (marvosym)
18439 %* \texteuro -> \Eur (marvosym)
18440 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)
18441 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%* U+20B0
18442 %* \textDeleatur -> \Denarius (marvosym)
18443 % U+20B1 PESO SIGN
18444 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
18445 % U+20B2 GUARANI SIGN
18446 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2
```

### 51.2.19 Letterlike Symbols: U+2100 to U+214F

```
18447 % U+2103 DEGREE CELSIUS; centigrade
18448 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
18449 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)
18450 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%* U+210F
18451 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)
18452 \DeclareTextCommand{\textIm}{PU}{\9041\021}%* U+2111
18453 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)
18454 \DeclareTextCommand{\textell}{PU}{\9041\023}%* U+2113
18455 % U+2116 NUMERO SIGN; *afii61352, numero
18456 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
18457 % U+2117 SOUND RECORDING COPYRIGHT
18458 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
18459 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);
18460 % weierstrass; \wp (LaTeX)
18461 \DeclareTextCommand{\textwp}{PU}{\9041\030}%* U+2118
```

18462 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)  
 18463 \DeclareTextCommand{\textRe}{PU}{\9041\034}%\* U+211C  
 18464 % U+211E PRESCRIPTION TAKE; prescription  
 18465 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 18466 % U+2120 SERVICE MARK  
 18467 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 18468 % U+2122 TRADE MARK SIGN; trademark  
 18469 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 18470 % U+2126 OHM SIGN; Ohm, Omega  
 18471 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 18472 % U+2127 INVERTED OHM SIGN  
 18473 \DeclareTextCommand{\textmho}{PU}{\9041\047}%\* U+2127  
 18474 %\* \textmho -> \agemO (wasysym)  
 18475 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)  
 18476 \DeclareTextCommand{\textriota}{PU}{\9041\051}%\* U+2129  
 18477 % U+212B ANGSTROM SIGN; angstrom  
 18478 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 18479 % U+212E ESTIMATED SYMBOL; estimated  
 18480 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 18481 %\* \textestimated -> \EstimatedSign (marvosym)  
 18482 %\* \textestimated -> \Ecommerce (marvosym)  
 18483 % U+2132 TURNED CAPITAL F; \Finv (AmS)  
 18484 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%\* U+2132  
 18485 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)  
 18486 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%\* U+2135  
 18487 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)  
 18488 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%\* U+2136  
 18489 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)  
 18490 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%\* U+2137  
 18491 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)  
 18492 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%\* U+2138  
 18493 % U+213B FACSIMILE SIGN; \fax (marvosym)  
 18494 \DeclareTextCommand{\textfax}{PU}{\9041\073}%\* U+213B  
 18495 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game  
 18496 \DeclareTextCommand{\textGame}{PU}{\9041\101}%\* U+2141  
 18497 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)  
 18498 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B  
 18499 %\* \textinvamp -> \bindnasrepma (stmaryrd)  
 18500 %\* \textinvamp -> \parr (cml)

### 51.2.20 Number Forms: U+2150 to U+218F

18501 % U+2150 VULGAR FRACTION ONE SEVENTH  
 18502 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150  
 18503 % U+2151 VULGAR FRACTION ONE NINTH  
 18504 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151  
 18505 % U+2152 VULGAR FRACTION ONE TENTH  
 18506 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152  
 18507 % U+2153 VULGAR FRACTION ONE THIRD; onethird  
 18508 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153  
 18509 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds

18510 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154  
 18511 % U+2155 VULGAR FRACTION ONE FIFTH  
 18512 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155  
 18513 % U+2156 VULGAR FRACTION TWO FIFTHS  
 18514 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156  
 18515 % U+2157 VULGAR FRACTION THREE FIFTHS  
 18516 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157  
 18517 % U+2158 VULGAR FRACTION FOUR FIFTHS  
 18518 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158  
 18519 % U+2159 VULGAR FRACTION ONE SIXTH  
 18520 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159  
 18521 % U+215A VULGAR FRACTION FIVE SIXTHS  
 18522 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A  
 18523 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth  
 18524 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B  
 18525 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths  
 18526 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C  
 18527 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths  
 18528 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D  
 18529 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths  
 18530 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E  
 18531 % U+2184 LATIN SMALL LETTER REVERSED C  
 18532 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184  
 18533 % U+2189 VULGAR FRACTION ZERO THIRDS  
 18534 \DeclareTextCommand{\textzer thirds}{PU}{\9041\211}% U+2189

### 51.2.21 Arrows: U+2190 to U+21FF

18535 % U+2190 LEFTWARDS ARROW; arrowleft  
 18536 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%\* U+2190  
 18537 % U+2191 UPWARDS ARROW; arrowup  
 18538 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%\* U+2191  
 18539 % U+2192 RIGHTWARDS ARROW; arrowright  
 18540 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%\* U+2192  
 18541 %\* \textrightarrow -> \MVRightArrow (marvosym)  
 18542 %\* \textrightarrow -> \MVRightarrow (marvosym)  
 18543 % U+2193 DOWNWARDS ARROW; arrowdown  
 18544 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%\* U+2193  
 18545 %\* \textdownarrow -> \MVAarrowDown (marvosym)  
 18546 %\* \textdownarrow -> \Force (marvosym)  
 18547 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightarrow (LaTeX)  
 18548 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\224}%\* U+2194  
 18549 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)  
 18550 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%\* U+2195  
 18551 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)  
 18552 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%\* U+2196  
 18553 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)  
 18554 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%\* U+2197  
 18555 %\* \textnearrow -> \textglobe (tipa)  
 18556 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)  
 18557 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%\* U+2198

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18558 %* \textsearrow -> \textglofball (tipa)
18559 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)
18560 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%* U+2199
18561 % U+219A LEFTWARDS ARROW WITH STROKE; \nleftarrow (AmS)
18562 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%* U+219A
18563 % U+219B RIGHTWARDS ARROW WITH STROKE; \nrightarrow (AmS)
18564 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%* U+219B
18565 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)
18566 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%* U+219E
18567 % \ntwoheadleftarrow (txfonts/pxfonts)
18568 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%* U+219E U+0338
18569 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)
18570 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%* U+219F
18571 % U+21A0 RIGHTWARDS TWO HEADED ARROW;
18572 % \twoheadrightarrow (AmS)
18573 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0
18574 % \ntwoheadrightarrow (txfonts/pxfonts)
18575 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%* U+21A0 U+0338
18576 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
Symbol)
18577 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
18578 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
18579 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
18580 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
18581 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
18582 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
18583 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
18584 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
18585 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
18586 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
18587 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
18588 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
18589 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
18590 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
18591 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
18592 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightharrow (AmS)
18593 \DeclareTextCommand{\textnleftrightharrow}{PU}{\9041\256}%* U+21AE
18594 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
18595 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
18596 %* \textlightning -> \Lightning (marvosym)
18597 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
18598 % \dlsh (mathabx)
18599 \DeclareTextCommand{\textdlsh}{PU}{\9041\265}%* U+21B5
18600 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
18601 % \curvearrowleft (AmS)
18602 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
18603 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
18604 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
18605 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
barbup;

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18606 % \leftharpoonup (LaTeX)
18607 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
18608 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
18609 % \leftharpoondown (LaTeX)
18610 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
18611 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
18612 % \upharpoonright (AmS)
18613 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
18614 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
18615 % \upharpoonleft (AmS)
18616 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
18617 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
    barbup
18618 % \rightharpoonup (LaTeX)
18619 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
18620 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
18621 % \rightharpoondown (LaTeX)
18622 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
18623 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
18624 % \downharpoonright (AmS)
18625 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
18626 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
18627 % \downharpoonleft (AmS)
18628 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
18629 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
18630 % \arrowrightoverleft; \rightleftarrows (MnSymbol)
18631 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
18632 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
    rowupleftofdown;
18633 % \updownarrows (MnSymbol)
18634 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
18635 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleft-
    overright;
18636 % \leftrightarrows (AmS)
18637 \DeclareTextCommand{\textleftrightarrows}{PU}{\9041\306}%* U+21C6
18638 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
18639 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
18640 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
18641 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
18642 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
18643 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9
18644 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
18645 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
18646 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
18647 % \leftrightharpoons (AmS);
18648 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
18649 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
18650 % \rightleftharpoons (LaTeX, AmS)
18651 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
18652 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-

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        blstroke;
18653 % \nLeftarrow (AmS)
18654 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
18655 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightarrow (AmS)
18656 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
18657 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightdblstroke;
18658 % \rightarrow (AmS)
18659 \DeclareTextCommand{\textrightarrow}{PU}{\9041\317}%* U+21CF
18660 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
18661 % \Leftarrow (LaTeX)
18662 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
18663 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
18664 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
18665 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
18666 % \Rightarrow (LaTeX)
18667 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%* U+21D2
18668 %* \textRightarrow -> \Conclusion (marvosym)
18669 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbldown; \Downarrow (LaTeX)
18670 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
18671 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;
18672 % \Leftrightarrow (LaTeX)
18673 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
18674 %* \textLeftrightarrow -> \Equivalence (marvosym)
18675 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
18676 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
18677 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
18678 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
18679 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
18680 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
18681 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
18682 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
18683 % U+21D9 SOUTH WEST DOUBLE ARROW; \Swarrow (MnSymbol)
18684 \DeclareTextCommand{\textSwarrow}{PU}{\9041\331}%* U+21D9
18685 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
18686 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
18687 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)
18688 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
18689 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
18690 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
18691 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
18692 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
18693 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
18694 % \dashleftarrow (AmS)
18695 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%* U+21E0
18696 %* \textdashleftarrow -> \dashedleftarrow (MnSymbol)
18697 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (MnSymbol)

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18698 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%* U+21E1
18699 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightar-
row (AmS)
18700 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%* U+21E2
18701 %* \textdashrightarrow -> \dashedrightarrow (MnSymbol)
18702 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownar-
row (MnSymbol)
18703 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%* U+21E3
18704 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)
18705 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%* U+21E8
18706 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
18707 % \downuparrows (MnSymbol)
18708 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%* U+21F5
18709 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)
18710 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%* U+21FD
18711 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)
18712 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%* U+21FE
18713 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightarrowtrian-
gle (stmaryrd)
18714 \DeclareTextCommand{\textleftrightarrowtriangle}{PU}{\9041\377}%* U+21FF

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### 51.2.22 Mathematical Operators: U+2200 to U+22FF

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18715 % U+2200 FOR ALL; forall; \forall (LaTeX)
18716 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
18717 % U+2201 COMPLEMENT; \complement (AmS)
18718 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
18719 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
18720 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
18721 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
18722 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
18723 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
18724 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
18725 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
18726 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
18727 %* \textemptyset -> \varnothing (AmS)
18728 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
18729 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
18730 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
18731 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
18732 % U+2208 ELEMENT OF; element; \in (LaTeX)
18733 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
18734 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
18735 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209
18736 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
18737 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
18738 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
18739 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
18740 %* \textni -> \owns (mathabx)
18741 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
18742 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C

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18743 %* \textnotowner -> \notni (txfonts/pxfonts)
18744 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
18745 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
18746 % U+220F N-ARY PRODUCT; \prod (LaTeX)
18747 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
18748 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
18749 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
18750 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
18751 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
18752 % U+2212 MINUS SIGN; minus
18753 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
18754 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
18755 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
18756 % U+2214 DOT PLUS; \dotplus (AmS)
18757 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
18758 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)
18759 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%* U+2215
18760 % \DividesNot (marvosym)
18761 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%* U+2215 U+20D2
18762 % U+2216 SET MINUS; \setminus (LaTeX)
18763 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
18764 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
18765 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
18766 % U+2218 RING OPERATOR; \circ (LaTeX)
18767 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
18768 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
18769 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
18770 % U+221A SQUARE ROOT; radical
18771 \DeclareTextCommand{\textsqrt}{PU}{\9042\032}%* U+221A
18772 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
18773 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
18774 %* \textpropto -> \varprop (wasysym)
18775 % U+221E INFINITY; infinity; \infty (LaTeX)
18776 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
18777 % U+2220 ANGLE; angle; \angle (LaTeX)
18778 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
18779 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
18780 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
18781 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
18782 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
18783 %* \textsphericalangle -> \varangle (wasysym)
18784 %* \textsphericalangle -> \Anglesign (marvosym)
18785 %* \textsphericalangle -> \AngleSign (marvosym)
18786 % U+2223 DIVIDES; divides; \mid (LaTeX)
18787 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
18788 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
18789 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224
18790 %* \textnmid -> \notdivides (mathabx)
18791 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
18792 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225

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18793 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
18794 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
18795 %* \textnparallel -> nUpdownline (MnSymbol)
18796 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
18797 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
18798 % \owedge (stmaryrd)
18799 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%* U+2227 U+20DD
18800 %* \textowedge -> \varowedge (stmaryrd)
18801 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
18802 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
18803 % \ovee (stmaryrd)
18804 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%* U+2228 U+20DD
18805 %* \textovee -> \varovee (stmaryrd)
18806 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
18807 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
18808 % U+222A UNION; union; \cup (LaTeX)
18809 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
18810 % U+222B INTEGRAL; integral; \int (LaTeX)
18811 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
18812 %* \textint -> \varint (wasysym)
18813 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
18814 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
18815 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
18816 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
18817 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
18818 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
18819 %* \textoint -> \varoint (wasysym)
18820 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
18821 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
18822 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
18823 % \ointclockwise (txfonts/pxfonts)
18824 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
18825 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrclockwise (tx-
      fonts/pxfonts)
18826 \DeclareTextCommand{\textointctrclockwise}{PU}{\9042\063}%* U+2233
18827 % U+2234 THEREFORE; therefore; \therefore (AmS)
18828 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
18829 %* \texttherefore -> uptherefore (MnSymbol)
18830 % U+2235 BECAUSE; because; \because (AmS)
18831 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
18832 %* \textbecause -> \downtherefore (MnSymbol)
18833 % U+2236 RATIO; \vdotdot (MnSymbol)
18834 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
18835 % U+2237 PROPORTION; \squaredots (MnSymbol)
18836 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
18837 % U+2238 DOT MINUS; \dotminus (MnSymbol)
18838 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
18839 %* \textdotminus -> \textdotdiv (mathabx)
18840 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
18841 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239

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18842 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)
18843 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
18844 %* \textsim -> \AC (wasysym)
18845 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)
18846 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
18847 % \nbacksim (txfonts/pxfonts)
18848 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%* U+223D U+0338
18849 % U+2240 WREATH PRODUCT; \wr (LaTeX)
18850 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240
18851 %* \textwr -> \wreath (MnSymbol)
18852 % U+2241 NOT TILDE; \nsim (AmS)
18853 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
18854 % U+2242 MINUS TILDE; \eqsim (MnSymbol)
18855 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%* U+2242
18856 % \neqsim (MnSymbol)
18857 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%* U+2242 U+0338
18858 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (LaTeX)
18859 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%* U+2243
18860 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)
18861 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%* U+2244
18862 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
18863 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
18864 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
18865 % \ncong (AmS)
18866 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
18867 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
18868 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
18869 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts)
18870 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%* U+2249
18871 %* \textnapprox -> \nthickapprox (txfonts/pxfonts)
18872 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
18873 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
18874 % \napproxeq (txfonts/pxfonts)
18875 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%* U+224A U+0338
18876 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)
18877 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%* U+224B
18878 %* \texttriplesim -> \VHF (wasysym)
18879 % \ntriplesim (MnSymbol)
18880 \DeclareTextCommand{\textntriplesim}{PU}{\9042\113\83\070}%* U+224B U+0338
18881 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
18882 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
18883 % \nbackcong (MnSymbol)
18884 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%* U+224C U+0338
18885 % U+224D EQUIVALENT TO; \asymp (LaTeX)
18886 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%* U+224D
18887 % \nasymp (txfonts/pxfonts)
18888 \DeclareTextCommand{\textnasymp}{PU}{\9042\115\83\070}%* U+224D U+0338
18889 %* \textnasymp -> \notasympt (mathabx)
18890 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)

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18891 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%\* U+224E  
18892 % \nBumpeq (txfonts/pxfonts)  
18893 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%\* U+224E U+0338  
18894 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)  
18895 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%\* U+224F  
18896 % \nbumpeq (txfonts/pxfonts)  
18897 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%\* U+224F U+0338  
18898 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)  
18899 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%\* U+2250  
18900 % \ndoteq (MnSymbol)  
18901 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%\* U+2250 U+0338  
18902 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;  
18903 % \doteqdot (AmS)  
18904 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%\* U+2251  
18905 %\* \textdoteqdot -> \Doteq (MnSymbol)  
18906 % \nDoteq (MnSymbol)  
18907 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%\* U+2251 U+0338  
18908 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-  
qualorimage;  
18909 % \fallingdotseq (AmS)  
18910 \DeclareTextCommand{\textfallingdotseq}{PU}{\9042\122}%\* U+2252  
18911 % \nfallingdotseq (MnSymbol)  
18912 \DeclareTextCommand{\textnfallingdotseq}{PU}{\9042\122\83\070}%\* U+2252 U+0338  
18913 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapprox-  
imatelyequal;  
18914 % \risingdotseq (AmS)  
18915 \DeclareTextCommand{\textrisingdotseq}{PU}{\9042\123}%\* U+2253  
18916 % \nrisingdotseq (MnSymbol)  
18917 \DeclareTextCommand{\textnrisingdotseq}{PU}{\9042\123\83\070}%\* U+2253 U+0338  
18918 % U+2254 COLON EQUALS; \colonequals (colonequals)  
18919 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%\* U+2254  
18920 % U+2255 EQUALS COLON; \equalscolon (colonequals)  
18921 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%\* U+2255  
18922 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)  
18923 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%\* U+2256  
18924 % \neqcirc (MnSymbol)  
18925 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%\* U+2256 U+0338  
18926 % U+2257 RING EQUAL TO; \circeq (AmS)  
18927 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%\* U+2257  
18928 % \ncirceq (MnSymbol)  
18929 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%\* U+2257 U+0338  
18930 % U+2259 ESTIMATES; \hateq (MnSymbol)  
18931 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%\* U+2259  
18932 %\* \texthateq -> \corresponds (mathabx)  
18933 %\* \texthateq -> \Corresponds (marvosym)  
18934 % \nhateq (MnSymbol)  
18935 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%\* U+2259 U+0338  
18936 % U+225C DELTA EQUAL TO; \triangleeq (AmS)  
18937 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%\* U+225C  
18938 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)

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18939 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
18940 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
18941 %* \textneq -> \nequal (MnSymbol)
18942 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
18943 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
18944 %* \textequiv -> \Congruent (marvosym)
18945 % U+2262 NOT IDENTICAL TO; notidentical; \notequiv (txfonts/pxfonts)
18946 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
18947 %* \textnequiv -> \NotCongruent (marvosym)
18948 %* \textnequiv -> \notequiv (mathabx)
18949 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
18950 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
18951 \DeclareTextCommand{\textle}{PU}{\9042\144}%* U+2264
18952 %* \textleq -> \LessOrEqual (marvosym)
18953 % U+2265 GREATER-THAN OR EQUAL TO; greaterqual;
18954 % \ge (LaTeX), \geq (LaTeX)
18955 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
18956 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
18957 %* \textgeq -> \LargerOrEqual (marvosym)
18958 % U+2266 LESS-THAN OVER EQUAL TO; lessoverequal; \leqq (AmS)
18959 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
18960 % \nleqq (txfonts/pxfonts)
18961 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%* U+2266 U+0338
18962 % U+2267 GREATER-THAN OVER EQUAL TO; greateroverequal; \geqq (AmS)
18963 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
18964 % \ngeqq (txfonts/pxfonts)
18965 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%* U+2267 U+0338
18966 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
18967 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
18968 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18969 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18970 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18971 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
18972 % \nll (txfonts/pxfonts)
18973 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%* U+226A U+0338
18974 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18975 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18976 % \ngg (txfonts/pxfonts)
18977 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%* U+226B U+0338
18978 % U+226C BETWEEN; \between (AmS)
18979 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18980 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18981 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18982 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18983 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18984 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18985 % \nleq (AmS)
18986 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18987 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)

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18988 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18989 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)
18990 \DeclareTextCommand{\textlessssim}{PU}{\9042\162}%* U+2272
18991 %* \textlessssim -> \apprle (wasysym)
18992 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtr-
sim (AmS)
18993 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18994 %* \textgtrsim -> \apprge (wasysym)
18995 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (tx-
fonts/pxfonts)
18996 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%* U+2274
18997 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (tx-
fonts/pxfonts)
18998 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%* U+2275
18999 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
19000 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
19001 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)
19002 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
19003 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (tx-
fonts/pxfonts)
19004 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%* U+2278
19005 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (tx-
fonts/pxfonts)
19006 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%* U+2279
19007 % U+227A PRECEDES; precedes; \prec (LaTeX)
19008 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
19009 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
19010 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
19011 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
19012 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C
19013 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)
19014 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%* U+227D
19015 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)
19016 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%* U+227E
19017 % \nprecsim (txfonts/pxfonts)
19018 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%* U+227E U+0338
19019 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)
19020 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%* U+227F
19021 % \nsuccsim (txfonts/pxfonts)
19022 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%* U+227F U+0338
19023 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)
19024 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%* U+2280
19025 % U+2281 DOES NOT SUCCEED; notsuccceeds; \nsucc (AmS)
19026 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%* U+2281
19027 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)
19028 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%* U+2282
19029 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)
19030 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%* U+2283
19031 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)
19032 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284

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19033 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)
19034 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
19035 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subsetq (LaTeX)
19036 \DeclareTextCommand{\textsubsetq}{PU}{\9042\206}%* U+2286
19037 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supsetq (LaTeX)
19038 \DeclareTextCommand{\textsupsetq}{PU}{\9042\207}%* U+2287
19039 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubsetq (AmS)
19040 \DeclareTextCommand{\textnsubsetq}{PU}{\9042\210}%* U+2288
19041 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupsetq (AmS)
19042 \DeclareTextCommand{\textnsupsetq}{PU}{\9042\211}%* U+2289
19043 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subset-
      neq (AmS)
19044 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
19045 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supset-
      neq (AmS)
19046 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
19047 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)
19048 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
19049 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
19050 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
19051 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
19052 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
19053 % \nsqsubset (txfonts/pxfonts)
19054 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%* U+228F U+0338
19055 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
19056 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
19057 % \nsqsupset (txfonts/pxfonts)
19058 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%* U+2290 U+0338
19059 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubsetq (LaTeX)
19060 \DeclareTextCommand{\textsqsubsetq}{PU}{\9042\221}%* U+2291
19061 % \nsqsubsetq (txfonts/pxfonts)
19062 \DeclareTextCommand{\textnsqsubsetq}{PU}{\9042\221\83\070}%* U+2291 U+0338
19063 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupsetq (LaTeX)
19064 \DeclareTextCommand{\textsqsupsetq}{PU}{\9042\222}%* U+2292
19065 % \nsqsupsetq (txfonts/pxfonts)
19066 \DeclareTextCommand{\textnsqsupsetq}{PU}{\9042\222\83\070}%* U+2292 U+0338
19067 % U+2293 SQUARE CAP; \sqcap (LaTeX)
19068 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
19069 % U+2294 SQUARE CUP; \sqcup (LaTeX)
19070 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
19071 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
19072 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
19073 %* \textoplus -> \varoplus (stmaryrd)
19074 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
19075 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
19076 %* \textominus -> \varominus (stmaryrd)
19077 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
19078 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
19079 %* \textotimes -> \varotimes (stmaryrd)
19080 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)

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19081 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
19082 %* \textoslash -> \varoslash (stmaryrd)
19083 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
19084 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
19085 %* \textodot -> \varodot (stmaryrd)
19086 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
19087 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
19088 %* \textcircledcirc -> \ocirc (mathabx)
19089 %* \textcircledcirc -> \varocircle (stmaryrd)
19090 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
19091 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
19092 %* \textcircledast -> \varoast (stmaryrd)
19093 %* \textcircledast -> \oasterisk (mathabx)
19094 % U+229D CIRCLED DASH; \circleddash (AmS)
19095 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
19096 % U+229E SQUARED PLUS; \boxplus (AmS)
19097 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
19098 % U+229F SQUARED MINUS; \boxminus (AmS)
19099 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
19100 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
19101 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
19102 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
19103 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
19104 % U+22A2 RIGHT TACK; \vdash (LaTeX)
19105 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
19106 %* \textvdash -> \rightvdash (MnSymbol)
19107 % U+22A3 LEFT TACK; \lhd; \dashv (LaTeX)
19108 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
19109 %* \textdashv -> \leftvdash (MnSymbol)
19110 % \ndashv (mathabx)
19111 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
19112 %* \textndashv -> \nleftvdash (MnSymbol)
19113 % U+22A4 DOWN TACK (=top); \tackdown; \top (LaTeX)
19114 \DeclareTextCommand{\textttop}{PU}{\9042\244}%* U+22A4
19115 %* \textttop -> \downvdash (MnSymbol)
19116 % \ndownvdash (MnSymbol)
19117 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
19118 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
19119 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
19120 %* \textbot -> \upvdash (MnSymbol)
19121 % \nupvdash (MnSymbol)
19122 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
19123 %* \textnupvdash -> \nperp (MnSymbol)
19124 % U+22A8 TRUE; \vDash (AmS)
19125 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
19126 %* \textvDash -> \models (LaTeX)
19127 %* \textvDash -> \rightmodels (MnSymbol)
19128 % U+22A9 FORCES; \Vdash (AmS)
19129 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
19130 %* \textVdash -> \rightVdash (MnSymbol)

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19131 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
19132 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
19133 % \nVdash (mathabx)
19134 \DeclareTextCommand{\textnVdash}{PU}{\9042\252\83\070}%* U+22AA U+0338
19135 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
19136 % \VDash (mathabx)
19137 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
19138 %* \textVDash -> \rightModels (MnSymbol)
19139 % U+22AC DOES NOT PROVE; \nvDash (AmS)
19140 \DeclareTextCommand{\textnvDash}{PU}{\9042\254}%* U+22AC
19141 %* \textnvDash -> \nrightvdash (MnSymbol)
19142 % U+22AD NOT TRUE; \nvDash (AmS)
19143 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%* U+22AD
19144 %* \textnvDash -> \nrightmodels (MnSymbol)
19145 %* \textnvDash -> \nmodels (MnSymbol)
19146 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)
19147 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%* U+22AE
19148 %* \textnVdash -> \nrightVdash (MnSymbol)
19149 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
STILE; \nVDash (AmS)
19150 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
19151 %* \textnVDash -> \nrightModels (MnSymbol)
19152 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
19153 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
19154 %* \textlhd -> \lessclosed (MnSymbol)
19155 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
19156 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
19157 %* \textrhd -> \gtrclosed (MnSymbol)
19158 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
19159 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
19160 %* \textunlhd -> \leqclosed (MnSymbol)
19161 %* \textunlhd -> \trianglelefteq (MnSymbol)
19162 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
texsym, ...)
19163 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
19164 %* \textunrhd -> \geqclosed (MnSymbol)
19165 %* \textunrhd -> \trianglerighteq (MnSymbol)
19166 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
19167 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
19168 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
19169 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
19170 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
19171 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
19172 % U+22BB XOR; \veebar (AmS)
19173 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
19174 % U+22BC NAND; \barwedge (mathabx)
19175 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
19176 % U+22C6 STAR OPERATOR; \star (LaTeX)
19177 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
19178 % U+22C7 DIVISION TIMES; \divideontimes (AmS)

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19179 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7
19180 % U+22C8 BOWTIE; \bowtie (LaTeX)
19181 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
19182 %* \textbowtie -> \Bowtie (wasysym)
19183 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
19184 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
19185 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
19186 % \rtimes (AmS)
19187 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
19188 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
19189 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
19190 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
19191 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
19192 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
19193 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
19194 % \nbacksimeq (txfonts/pxfonts)
19195 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%* U+22CD U+0338
19196 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
19197 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
19198 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
19199 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
19200 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
19201 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
19202 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
19203 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
19204 % \nSubset (txfonts/pxfonts)
19205 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%* U+22D0 U+0338
19206 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
19207 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1
19208 % \nSupset (txfonts/pxfonts)
19209 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%* U+22D1 U+0338
19210 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
19211 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
19212 %* \textCap -> \doublecap (mathabx)
19213 % U+22D3 DOUBLE UNION; \Cup (AmS)
19214 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
19215 %* \textCup -> \doublecup (mathabx)
19216 % U+22D4 PITCHFORK; \pitchfork (mathabx)
19217 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4
19218 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)
19219 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%* U+22D6
19220 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)
19221 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%* U+22D7
19222 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)
19223 \DeclareTextCommand{\textlll}{PU}{\9042\330}%* U+22D8
19224 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)
19225 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9
19226 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lesseqqualorgreater;
19227 % \lesseqgtr (AmS)
19228 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA

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19229 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN;  $\gtrless$  (AmS)  
 19230 %  $\gtrless$  (AmS)  
 19231 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%\* U+22DB  
 19232 % U+22DE EQUAL TO OR PRECEDES;  $\curlyeqprec$  (MnSymbol)  
 19233 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%\* U+22DE  
 19234 %  $\ncurlyeqprec$  (mathabx)  
 19235 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%\* U+22DE U+0338  
 19236 % U+22DF EQUAL TO OR SUCCEEDS;  $\curlyeqsucc$  (MnSymbol)  
 19237 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%\* U+22DF  
 19238 %  $\ncurlyeqsucc$  (mathabx)  
 19239 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%\* U+22DF U+0338  
 19240 % U+22E0 DOES NOT PRECEDE OR EQUAL;  $\npreccurlyeq$  (txfonts/pxfonts)  
 19241 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%\* U+22E0  
 19242 % U+22E1 DOES NOT SUCCEED OR EQUAL;  $\nsucccurlyeq$  (txfonts/pxfonts)  
 19243 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%\* U+22E1  
 19244 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO;  $\nsqsubseteq$  (tx-  
 fonts/pxfonts)  
 19245 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\342}%\* U+22E2  
 19246 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO;  $\nsqsupseteq$  (tx-  
 fonts/pxfonts)  
 19247 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%\* U+22E3  
 19248 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO;  $\sqsubseteq$  (mathabx)  
 19249 \DeclareTextCommand{\textsqsubseteq}{PU}{\9042\344}%\* U+22E4  
 19250 %\*  $\textsqsubseteq$  ->  $\sqsubseteq$  (mathabx)  
 19251 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO;  $\sqsupseteq$  (math-  
 abx)  
 19252 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\345}%\* U+22E5  
 19253 %\*  $\textsqsupseteq$  ->  $\sqsupseteq$  (mathabx)  
 19254 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO;  $\lnsim$  (AmS)  
 19255 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%\* U+22E6  
 19256 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO;  $\gnsim$  (AmS)  
 19257 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%\* U+22E7  
 19258 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO;  $\precnsim$  (AmS)  
 19259 \DeclareTextCommand{\textprecnsim}{PU}{\9042\350}%\* U+22E8  
 19260 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO;  $\succnsim$  (AmS)  
 19261 \DeclareTextCommand{\textsuccnsim}{PU}{\9042\351}%\* U+22E9  
 19262 % U+22EA NOT NORMAL SUBGROUP OF;  $\ntriangleleft$  (AmS)  
 19263 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%\* U+22EA  
 19264 %\*  $\textntriangleleft$  ->  $\nlessclosed$  (MnSymbol)  
 19265 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP;  $\ntriangleright$   
 right (AmS)  
 19266 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%\* U+22EB  
 19267 %\*  $\textntriangleright$  ->  $\ngtrclosed$  (MnSymbol)  
 19268 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;  
 19269 %  $\ntrianglelefteq$  (AmS)  
 19270 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%\* U+22EC  
 19271 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;  
 19272 %  $\ntrianglerighteq$  (AmS)  
 19273 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%\* U+22ED  
 19274 %\*  $\textntrianglerighteq$  ->  $\textngeqclosed$

19275 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)  
19276 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%\* U+22EE  
19277 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)  
19278 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%\* U+22EF  
19279 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)  
19280 \DeclareTextCommand{\textudots}{PU}{\9042\360}%\* U+22F0  
19281 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)  
19282 \DeclareTextCommand{\textddots}{PU}{\9042\361}%\* U+22F1  
19283 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)  
19284 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%\* U+22F6

### 51.2.23 Miscellaneous Technical: U+2300 to U+23FF

19285 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)  
19286 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%\* U+2300  
19287 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)  
19288 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%\* U+2310  
19289 % U+2311 SQUARE LOZENGE; \wasylozenge (wasysym)  
19290 \DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}%\* U+2311  
19291 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)  
19292 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%\* U+2319  
19293 % U+231A WATCH; \clock (wasysym)  
19294 \DeclareTextCommand{\textclock}{PU}{\9043\032}%\* U+231A  
19295 %\* \textclock -> \Clocklogo (marvosym)  
19296 %\* \textclock -> \ClockLogo (marvosym)  
19297 % U+231C TOP LEFT CORNER; \ulcorner (AmS)  
19298 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%\* U+231C  
19299 % U+231D TOP RIGHT CORNER; \urcorner (AmS)  
19300 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%\* U+231D  
19301 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)  
19302 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%\* U+231E  
19303 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)  
19304 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%\* U+231F  
19305 % U+2322 FROWN; \frown (LaTeX)  
19306 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%\* U+2322  
19307 % U+2323 SMILE; \smile (LaTeX)  
19308 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%\* U+2323  
19309 % U+2328 KEYBOARD; \Keyboard (marvosym)  
19310 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%\* U+2328  
19311 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \langle (LaTeX)  
19312 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%\* U+2329  
19313 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)  
19314 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%\* U+232A  
19315 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)  
19316 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%\* U+2339  
19317 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)  
19318 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%\* U+233C  
19319 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)  
19320 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}%\* U+233D  
19321 %\* \textstmaryrdbaro -> \baro (stmaryrd)

19322 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)  
 19323 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%\* U+233F  
 19324 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;  
 19325 % \notbackslash (wasysym)  
 19326 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%\* U+2340  
 19327 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxback-  
 slash (mathabx)  
 19328 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%\* U+2342  
 19329 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;  
 19330 % \APLleftarrowbox (wasysym)  
 19331 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%\* U+2347  
 19332 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;  
 19333 % \APLrightarrowbox (wasysym)  
 19334 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%\* U+2348  
 19335 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLu-  
 parrowbox (wasysym)  
 19336 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%\* U+2350  
 19337 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;  
 19338 % \APLdownarrowbox (wasysym)  
 19339 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%\* U+2357  
 19340 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;  
 19341 % \APLinup (wasysym)  
 19342 \DeclareTextCommand{\textAPLinup}{PU}{\9043\136}%\* U+235E  
 19343 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)  
 19344 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%\* U+2370  
 19345 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)  
 19346 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%\* U+2393  
 19347 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)  
 19348 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%\* U+2394  
 19349 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)  
 19350 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%\* U+2395  
 19351 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTI-  
 CAL BAR;  
 19352 % \ForwardToIndex (marvosym)  
 19353 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%\* U+23ED  
 19354 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTI-  
 CAL BAR;  
 19355 % \RewindToIndex (marvosym)  
 19356 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%\* U+23EE

#### 51.2.24 Control Pictures: U+2400 to U+243F

19357 % U+2422 BLANK SYMBOL  
 19358 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 19359 % U+2423 OPEN BOX; blank  
 19360 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

#### 51.2.25 Optical Character Recognition: U+2440 to U+245F

19361 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)  
 19362 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%\* U+244A  
 19363 %\* \textbbslash -> \varparallelinv (txfonts/pxfonts)

### 51.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

```
19364 % U+2460 CIRCLED DIGIT ONE; onecircle
19365 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
19366 % U+2461 CIRCLED DIGIT TWO; twocircle
19367 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
19368 % U+2462 CIRCLED DIGIT THREE; threecircle
19369 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
19370 % U+2463 CIRCLED DIGIT FOUR; fourcircle
19371 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
19372 % U+2464 CIRCLED DIGIT FIVE; fivecircle
19373 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
19374 % U+2465 CIRCLED DIGIT SIX; sixcircle
19375 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
19376 % U+2466 CIRCLED DIGIT SEVEN; sevendigit
19377 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
19378 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
19379 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
19380 % U+2468 CIRCLED DIGIT NINE; ninecircle
19381 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
19382 % U+2469 CIRCLED NUMBER TEN; tencircle
19383 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
19384 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
19385 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
19386 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
19387 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
19388 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
19389 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
19390 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
19391 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
19392 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
19393 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
19394 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
19395 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
19396 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
19397 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
19398 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
19399 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
19400 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
19401 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
19402 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
19403 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
19404 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
19405 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
19406 % \CircledA (marvosym)
19407 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%* U+24B6
19408 %* \textCircledA -> \CleaningA
19409 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
19410 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
19411 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
```

19412 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
19413 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
19414 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
19415 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
19416 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
19417 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
19418 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
19419 % \CleaningF (marvosym)  
19420 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%\* U+24BB  
19421 % \CleaningFF (marvosym)  
19422 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%\* U+24BB U+0332  
19423 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
19424 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
19425 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
19426 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
19427 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
19428 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
19429 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
19430 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
19431 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
19432 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
19433 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
19434 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
19435 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
19436 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
19437 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
19438 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
19439 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
19440 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
19441 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
19442 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
19443 % \CleaningP (marvosym)  
19444 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%\* U+24C5  
19445 % \CleaningPP (marvosym)  
19446 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%\* U+24C5 U+0332  
19447 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
19448 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
19449 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
19450 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
19451 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
19452 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
19453 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
19454 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
19455 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
19456 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
19457 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
19458 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
19459 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
19460 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
19461 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle



19462 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 19463 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 19464 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 19465 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 19466 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 19467 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 19468 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 19469 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 19470 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 19471 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 19472 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 19473 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 19474 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 19475 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 19476 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 19477 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 19478 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 19479 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 19480 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 19481 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 19482 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 19483 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 19484 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 19485 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 19486 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 19487 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 19488 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 19489 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 19490 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 19491 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 19492 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 19493 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 19494 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 19495 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 19496 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 19497 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 19498 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 19499 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 19500 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 19501 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 19502 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 19503 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 19504 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 19505 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 19506 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 19507 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 19508 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 19509 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 19510 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 19511 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle

```

19512 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
19513 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
19514 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
19515 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
19516 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
19517 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
19518 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
19519 % U+24EA CIRCLED DIGIT ZERO
19520 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

```

### 51.2.27 Box Drawing: U+2500 to 257F

```

19521 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-
      Line (marvosym)
19522 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%* U+2504
19523 %* \textCuttingLine -> \Kutline (marvosym)
19524 %* \textCuttingLine -> \CutLine (marvosym)
19525 %* \textCuttingLine -> \Cutline (marvosym)

```

### 51.2.28 Geometric Shapes: U+25A0 to U+25FF

```

19526 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)
19527 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%* U+25B2
19528 %* \textUParrow -> \MoveUp (marvosym)
19529 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;
19530 % \bigtriangleup (LaTeX)
19531 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%* U+25B3
19532 %* \textbigtriangleup -> \APLup (wasysym)
19533 %* \textbigtriangleup -> \Bleech (marvosym)
19534 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)
19535 \DeclareTextCommand{\textForward}{PU}{\9045\266}%* U+25B6
19536 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-
      tion);
19537 % whiterightpointingtriangle; \triangleright (LaTeX)
19538 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%* U+25B7
19539 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)
19540 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%* U+25BA
19541 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)
19542 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%* U+25BC
19543 %* \textDOWNarrow -> \MoveDown (marvosym)
19544 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-
      angle;
19545 % \bigtriangledown (LaTeX)
19546 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
19547 %* \textbigtriangledown -> \APLdown (wasysym)
19548 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
19549 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0
19550 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
      striction);
19551 % whiteleftpointingtriangle; \triangleleft (LaTeX)
19552 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
19553 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)

```

```

19554 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
19555 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
19556 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
19557 %* \textdiamond -> \Diamond (wasysym)
19558 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
19559 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
19560 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)
19561 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
19562 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
19563 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
19564 % U+25E6 WHITE BULLET; *openbullet, whitebullet
19565 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
19566 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
19567 % \boxbar (stmaryrd)
19568 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
19569 % U+25EF LARGE CIRCLE; largecircle
19570 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
19571 %* \textbigcircle -> \varbigcirc (stmaryrd)
19572 %

```

### 51.2.29 Miscellaneous Symbols: U+2600 to U+26FF

```

19573 % U+2601 CLOUD; \Cloud (ifsym)
19574 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
19575 % U+2605 BLACK STAR; \FiveStar (bbding)
19576 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
19577 % U+2606 WHITE STAR; \FiveStarOpen (bbding)
19578 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
19579 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)
19580 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
19581 %* \textPhone -> \Telefon (marvosym)
19582 % U+2610 BALLOT BOX; \boxempty (stmaryrd)
19583 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
19584 %* \textboxempty -> \Box (wasysym)
19585 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
19586 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
19587 %* \textCheckedbox -> \CheckedBox (marvosym)
19588 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
19589 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612
19590 %* \textCrossedbox -> \XBox (wasysym)
19591 %* \textCrossedbox -> \CrossedBox (marvosym)
19592 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)
19593 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2615
19594 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)
19595 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%* U+261A
19596 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)
19597 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%* U+261B
19598 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)
19599 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%* U+261C
19600 %* \textHandLeft -> \rightpointleft (fourier)
19601 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)

```

19602 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%\* U+261E  
19603 %\* \textHandRight -> \leftpointright (fourier)  
19604 %\* \textHandRight -> \PointingHand (marvosym)  
19605 %\* \textHandRight -> \Pointinghand (marvosym)  
19606 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)  
19607 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%\* U+2622  
19608 %\* \textRadioactivity -> \Radiation (ifsym)  
19609 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)  
19610 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%\* U+2623  
19611 % U+2625 ANKH; \Ankh (marvosym)  
19612 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%\* U+2625  
19613 % U+262F YIN YANG; \YinYang (marvosym)  
19614 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%\* U+262F  
19615 %\* \textYinYang -> \Yinyang (marvosym)  
19616 %\* \textYinYang -> \YingYang (marvosym)  
19617 %\* \textYinYang -> \Yingyang (marvosym)  
19618 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)  
19619 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%\* U+2639  
19620 %\* \textfrownie -> \Frowny (marvosym)  
19621 % U+263A WHITE SMILING FACE; \smiley (wasysym)  
19622 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%\* U+263A  
19623 %\* \textsmiley -> \Smiley (marvosym)  
19624 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)  
19625 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%\* U+263B  
19626 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)  
19627 \DeclareTextCommand{\textsun}{PU}{\9046\074}%\* U+263C  
19628 %\* \textsun -> \Sun (marvosym)  
19629 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)  
19630 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%\* U+263D  
19631 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)  
19632 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%\* U+263E  
19633 % U+263F MERCURY; \mercury (wasysym)  
19634 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%\* U+263F  
19635 %\* \textmercury -> \Mercury (marvosym)  
19636 % U+2640 FEMALE SIGN; female; \female (wasysym)  
19637 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640  
19638 %\* \textPUfemale -> \textfemale (tipx)  
19639 %\* \textPUfemale -> \female (wasysym)  
19640 %\* \textPUfemale -> \venus (wasysym)  
19641 %\* \textPUfemale -> \Venus (marvosym)  
19642 %\* \textPUfemale -> \Female (marvosym)  
19643 % U+2641 EARTH; \earth (wasysym)  
19644 \DeclareTextCommand{\textearth}{PU}{\9046\101}%\* U+2641  
19645 %\* \textearth -> \Earth (marvosym)  
19646 % U+2642 MALE SIGN; male, mars; \male (wasysym)  
19647 \DeclareTextCommand{\textmale}{PU}{\9046\102}%\* U+2642  
19648 %\* \textmale -> \mars (wasysym)  
19649 %\* \textmale -> \Mars (marvosym)  
19650 %\* \textmale -> \Male (marvosym)  
19651 % U+2643 JUPITER; \jupiter (wasysym)

```

19652 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%* U+2643
19653 %* \textjupiter -> \Jupiter (marvosym)
19654 % U+2644 SATURN; \saturn (wasysym)
19655 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%* U+2644
19656 %* \textsaturn -> \Saturn (marvosym)
19657 % U+2645 URANUS; \uranus (wasysym)
19658 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%* U+2645
19659 %* \texturanus -> \Uranus (marvosym)
19660 % U+2646 NEPTUNE; \neptune (wasysym)
19661 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%* U+2646
19662 %* \textneptune -> \Neptune (marvosym)
19663 % U+2647 PLUTO; \pluto (wasysym)
19664 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%* U+2647
19665 %* \textpluto -> \Pluto (marvosym)
19666 % U+2648 ARIES; \aries (wasysym)
19667 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
19668 %* \textaries -> \Aries (marvosym)
19669 % U+2649 TAURUS; \taurus (wasysym)
19670 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
19671 %* \texttaurus -> \Taurus (marvosym)
19672 % U+264A GEMINI; \gemini (wasysym)
19673 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
19674 %* \textgemini -> \Gemini (marvosym)
19675 % U+264B CANCER; \cancer (wasysym)
19676 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
19677 %* \textcancer -> \Cancer (marvosym)
19678 % U+264C LEO; \leo (wasysym)
19679 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
19680 %* \textleo -> \Leo (marvosym)
19681 % U+264D VIRGO; \virgo (wasysym)
19682 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
19683 %* \textvirgo -> \Virgo (marvosym)
19684 % U+264E LIBRA; \libra (wasysym)
19685 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
19686 %* \textlibra -> \Libra (marvosym)
19687 % U+264F SCORPIO; \scorpio (wasysym)
19688 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
19689 %* \textscorpio -> \Scorpio (marvosym)
19690 % U+2650 SAGITTARIUS; \sagittarius (wasysym)
19691 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
19692 %* \textsagittarius -> \Sagittarius (marvosym)
19693 % U+2651 CAPRICORN; \capricornus (wasysym)
19694 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%* U+2651
19695 %* \textcapricornus -> \Capricorn (marvosym)
19696 % U+2652 AQUARIUS; \aquarius (wasysym)
19697 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
19698 %* \textaquarius -> \Aquarius (marvosym)
19699 % U+2653 PISCES; \pisces (wasysym)
19700 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
19701 %* \textpisces -> \Pisces (marvosym)

```

```

19702 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
19703 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
19704 %* \textspadesuitblack -> \spadesuit (MnSymbol)
19705 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
19706 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
19707 %* \textheartsuitwhite -> \Heart (marvosym)
19708 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
19709 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
19710 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
19711 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
19712 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
19713 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
19714 %* \textclubsuitblack -> \clubsuit (MnSymbol)
19715 % U+2664 WHITE SPADE SUIT; spadesuitwhite
19716 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
19717 % U+2665 BLACK HEART SUIT; heartsuitblack, heart
19718 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665
19719 % U+2666 BLACK DIAMOND SUIT; diamond
19720 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666
19721 % U+2667 WHITE CLUB SUIT; clubsuitwhite
19722 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667
19723 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)
19724 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%* U+2669
19725 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)
19726 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
19727 %* \textmusicalnote -> \eighthnote (wasysym, arev)
19728 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)
19729 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%* U+266B
19730 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-
    note (arev)
19731 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%* U+266C
19732 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)
19733 \DeclareTextCommand{\textflat}{PU}{\9046\155}%* U+266D
19734 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)
19735 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%* U+266E
19736 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)
19737 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%* U+266F
19738 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)
19739 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%* U+2672
19740 %* \textrecycle -> \Recycling (marvosym)
19741 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)
19742 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%* U+267F
19743 % U+2691 BLACK FLAG; \Flag (ifsym)
19744 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%* U+2691
19745 %* \textFlag -> \VarFlag (ifsym)
19746 % U+2692 HAMMER AND PICK; \MineSign (marvosym)
19747 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%* U+2692
19748 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)
19749 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%* U+2694
19750 %* \textdsmilitary -> \textxswup (fourier)

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19751 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)  
 19752 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%\* U+2695  
 19753 % U+2696 SCALES; \dsjuridical (dictsym)  
 19754 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%\* U+2696  
 19755 % U+2697 ALEMBIC; \dschemical (dictsym)  
 19756 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%\* U+2697  
 19757 % U+2698 FLOWER; \dsbiological (dictsym)  
 19758 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%\* U+2698  
 19759 % U+269A STAFF OF HERMES; \dscommercial (dictsym)  
 19760 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%\* U+269A  
 19761 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)  
 19762 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%\* U+269D  
 19763 % U+26A0 WARNING SIGN; \danger (fourier)  
 19764 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%\* U+26A0  
 19765 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)  
 19766 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%\* U+26A2  
 19767 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)  
 19768 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%\* U+26A3  
 19769 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (marvosym)  
 19770 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%\* U+26A4  
 19771 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)  
 19772 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%\* U+26A5  
 19773 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)  
 19774 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%\* U+26AA  
 19775 % U+26AD MARRIAGE SYMBOL  
 19776 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 19777 % U+26AE DIVORCE SYMBOL  
 19778 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE  
 19779 % U+26B2 NEUTER; \textuncrfemale (tipx)  
 19780 \DeclareTextCommand{\textPUuncrfemale}{PU}{\9046\262}% U+26B2  
 19781 %\* \textPUuncrfemale -> \textuncrfemale (tipx)  
 19782 % U+26B9 SEXTILE; \hexstar (wasysym)  
 19783 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%\* U+26B9  
 19784 % U+26BD SOCCER BALL; \Football (marvosym)  
 19785 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD  
 19786 %\* \textSoccerBall -> \Football (marvosym)  
 19787 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)  
 19788 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%\* U+26C5  
 19789 % U+26C6 RAIN; \Rain (ifsym)  
 19790 \DeclareTextCommand{\textRain}{PU}{\9046\306}%\* U+26C6  
 19791 % U+26D4 NO ENTRY; \noway (fourier)  
 19792 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%\* U+26D4  
 19793 % U+26F0 MOUNTAIN; \Mountain (ifsym)  
 19794 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%\* U+26F0  
 19795 % U+26FA TENT; \Tent (ifsym)  
 19796 \DeclareTextCommand{\textTent}{PU}{\9046\372}%\* U+26FA

### 51.2.30 Dingbats: U+2700 to U+27BF

19797 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bbding)

19798 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701  
 19799 %\* \textScissorRightBrokenBottom -> \CutLeft (marvosym)  
 19800 %\* \textScissorRightBrokenBottom -> \Cutright (marvosym)  
 19801 % U+2702 BLACK SCISSORS; \ScissorRight (bding)  
 19802 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%\* U+2702  
 19803 %\* \textScissorRight -> \RightScissors (marvosym)  
 19804 %\* \textScissorRight -> \Leftscissors (marvosym)  
 19805 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bding)  
 19806 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%\* U+2703  
 19807 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bding)  
 19808 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%\* U+2704  
 19809 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bding)  
 19810 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%\* U+2706  
 19811 % U+2707 TAPE DRIVE; \Tape (bding)  
 19812 \DeclareTextCommand{\textTape}{PU}{\9047\007}%\* U+2707  
 19813 % U+2708 AIRPLANE; \Plane (bding)  
 19814 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%\* U+2708  
 19815 % U+2709 ENVELOPE; \Envelope (bding),  
 19816 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%\* U+2709  
 19817 %\* \textEnvelope -> \Letter (marvosym)  
 19818 % U+270C VICTORY HAND; \Peace (bding)  
 19819 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%\* U+270C  
 19820 % U+270D WRITING HAND; \WritingHand (marvosym)  
 19821 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%\* U+270D  
 19822 %\* \textWritingHand -> \Writinghand (marvosym)  
 19823 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)  
 19824 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%\* U+270E  
 19825 % U+270F PENCIL; \PencilRight (bding)  
 19826 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%\* U+270F  
 19827 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)  
 19828 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%\* U+2710  
 19829 % U+2711 WHITE NIB; \NibRight (bding)  
 19830 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%\* U+2711  
 19831 % U+2712 BLACK NIB; \NibSolidRight (bding)  
 19832 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%\* U+2712  
 19833 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)  
 19834 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%\* U+2713  
 19835 %\* \textCheckmark -> \checkmark (MnSymbol)  
 19836 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)  
 19837 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%\* U+2714  
 19838 % U+2715 MULTIPLICATION X; \XSolid (bding)  
 19839 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%\* U+2715  
 19840 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)  
 19841 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%\* U+2716  
 19842 % U+2717 BALLOT X; \XSolidBrush (bding)  
 19843 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%\* U+2717  
 19844 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)  
 19845 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%\* U+2719  
 19846 % U+271A HEAVY GREEK CROSS; \Plus (bding)  
 19847 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%\* U+271A



19848 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)  
 19849 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%\* U+271B  
 19850 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)  
 19851 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%\* U+271C  
 19852 % U+271D LATIN CROSS; \Cross (bding)  
 19853 \DeclareTextCommand{\textCross}{PU}{\9047\035}%\* U+271D  
 19854 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)  
 19855 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%\* U+271E  
 19856 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)  
 19857 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%\* U+271F  
 19858 % U+2720 MALTESE CROSS; \CrossMaltese (bding)  
 19859 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%\* U+2720  
 19860 % U+2721 STAR OF DAVID; \DavidStar (bding)  
 19861 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%\* U+2721  
 19862 %\* \textDavidStar -> \davidstar (wasysym)  
 19863 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)  
 19864 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%\* U+2722  
 19865 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)  
 19866 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%\* U+2723  
 19867 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bding)  
 19868 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%\* U+2724  
 19869 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bding)  
 19870 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%\* U+2725  
 19871 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bding)  
 19872 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%\* U+2726  
 19873 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bding)  
 19874 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%\* U+2727  
 19875 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bding)  
 19876 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%\* U+272A  
 19877 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)  
 19878 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%\* U+272B  
 19879 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)  
 19880 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%\* U+272C  
 19881 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)  
 19882 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%\* U+272D  
 19883 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)  
 19884 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%\* U+272E  
 19885 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)  
 19886 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%\* U+272F  
 19887 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)  
 19888 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%\* U+2730  
 19889 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)  
 19890 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%\* U+2731  
 19891 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)  
 19892 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%\* U+2732  
 19893 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)  
 19894 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%\* U+2734  
 19895 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)  
 19896 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%\* U+2735

19897 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)  
 19898 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%\* U+2736  
 19899 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)  
 19900 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%\* U+2737  
 19901 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)  
 19902 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%\* U+2738  
 19903 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)  
 19904 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%\* U+2739  
 19905 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)  
 19906 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%\* U+273A  
 19907 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)  
 19908 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%\* U+273B  
 19909 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;  
 19910 % \SixFlowerOpenCenter (bding)  
 19911 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%\* U+273C  
 19912 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)  
 19913 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%\* U+273D  
 19914 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)  
 19915 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%\* U+273E  
 19916 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)  
 19917 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%\* U+273F  
 19918 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)  
 19919 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%\* U+2740  
 19920 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)  
 19921 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%\* U+2741  
 19922 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)  
 19923 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%\* U+2742  
 19924 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)  
 19925 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%\* U+2743  
 19926 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)  
 19927 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%\* U+2744  
 19928 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)  
 19929 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%\* U+2745  
 19930 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)  
 19931 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%\* U+2746  
 19932 % U+2747 SPARKLE; \Sparkle (bding)  
 19933 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%\* U+2747  
 19934 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)  
 19935 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%\* U+2748  
 19936 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)  
 19937 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%\* U+2749  
 19938 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 19939 % \EightFlowerPetalRemoved (bding)

19940 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%\* U+274A  
 19941 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 19942 % \EightAsterisk (bding)  
 19943 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%\* U+274B  
 19944 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)  
 19945 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%\* U+274D  
 19946 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19947 % \SquareShadowBottomRight (bding)  
 19948 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%\* U+274F  
 19949 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19950 % \SquareShadowTopRight (bding)  
 19951 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%\* U+2750  
 19952 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;  
 19953 % \SquareCastShadowBottomRight (bding)  
 19954 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%\* U+2751  
 19955 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;  
 19956 % \SquareCastShadowTopRight (bding)  
 19957 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%\* U+2752  
 19958 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (bding)  
 19959 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%\* U+2756  
 19960 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)  
 19961 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%\* U+2758  
 19962 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)  
 19963 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%\* U+2759  
 19964 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bding)  
 19965 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%\* U+275A

### 51.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

19966 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)  
 19967 \DeclareTextCommand{\textperp}{PU}{\9047\302}%\* U+27C2  
 19968 % \notperp (mathabx)  
 19969 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%\* U+27C2 U+0338  
 19970 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)  
 19971 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%\* U+27C7  
 19972 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)  
 19973 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%\* U+27D1  
 19974 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)  
 19975 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%\* U+27DC  
 19976 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 19977 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%\* U+27E6  
 19978 %\* \textlbrackdbl -> \llbracket (stmaryrd)  
 19979 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 19980 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%\* U+27E7  
 19981 %\* \textrbrackdbl -> \rrbracket (stmaryrd)

### 51.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

19982 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;  
 19983 % \circlearrowleft (AmS)  
 19984 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%\* U+27F2

19985 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)  
 19986 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%\* U+27F3  
 19987 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)  
 19988 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%\* U+27F5  
 19989 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)  
 19990 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%\* U+27F6  
 19991 % U+27F7 LONG LEFT RIGHT ARROW; \longleftrightarrow (AmS)  
 19992 \DeclareTextCommand{\textlongleftrightarrow}{PU}{\9047\367}%\* U+27F7  
 19993 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)  
 19994 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%\* U+27F8  
 19995 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Longrightarrow (AmS)  
 19996 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%\* U+27F9  
 19997 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longleftrightarrow (AmS)  
 19998 \DeclareTextCommand{\textLongleftrightarrow}{PU}{\9047\372}%\* U+27FA  
 19999 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)  
 20000 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%\* U+27FC  
 20001 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmapsfrom (stmaryrd)  
 20002 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%\* U+27FD  
 20003 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmapsto (stmaryrd)  
 20004 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%\* U+27FE

### 51.2.33 Supplemental Arrows-B: U+2900 to U+297F

20005 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSymbol)  
 20006 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%\* U+2921  
 20007 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSymbol)  
 20008 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%\* U+2922  
 20009 % U+2923 NORTH WEST ARROW WITH HOOK; \hooknwarrow (MnSymbol)  
 20010 \DeclareTextCommand{\texthooknwarrow}{PU}{\9051\043}%\* U+2923  
 20011 % U+2924 NORTH EAST ARROW WITH HOOK; \rhooknearrow (MnSymbol)  
 20012 \DeclareTextCommand{\textrhooknearrow}{PU}{\9051\044}%\* U+2924  
 20013 % U+2925 SOUTH EAST ARROW WITH HOOK; \hooksearrow (MnSymbol)  
 20014 \DeclareTextCommand{\texthooksearrow}{PU}{\9051\045}%\* U+2925  
 20015 % U+2926 SOUTH WEST ARROW WITH HOOK; \rhookswarrow (MnSymbol)  
 20016 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%\* U+2926  
 20017 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)  
 20018 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%\* U+2933  
 20019 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;  
 20020 % \rcurvearrowne (MnSymbol)  
 20021 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%\* U+2934  
 20022 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWNWARDS;  
 20023 % \lcurvearrowse (MnSymbol)  
 20024 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%\* U+2935  
 20025 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFTWARDS;  
 20026 % \lcurvearrowsw (MnSymbol)

20027 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%\* U+2936  
 20028 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHT-  
 WARDS;  
 20029 % \rcurvearrowse (MnSymbol)  
 20030 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%\* U+2937  
 20031 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (Mn-  
 Symbol)  
 20032 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%\* U+2938  
 20033 %\* \textlcurvearrowdown -> \RightTorque (marvosym)  
 20034 %\* \textlcurvearrowdown -> \Righttorque (marvosym)  
 20035 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;  
 20036 % \rcurvearrowdown (MnSymbol)  
 20037 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%\* U+2939  
 20038 %\* \textrcurvearrowdown -> \LeftTorque (marvosym)  
 20039 %\* \textrcurvearrowdown -> \Lefttorque (marvosym)  
 20040 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSym-  
 bol)  
 20041 \DeclareTextCommand{\textrcurvearrowleft}{PU}{\9051\072}%\* U+293A  
 20042 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;  
 20043 % \rcurvearrowright (MnSymbol)  
 20044 \DeclareTextCommand{\textrcurvearrowright}{PU}{\9051\073}%\* U+293B  
 20045 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrighthar-  
 poon (mathabx)  
 20046 \DeclareTextCommand{\textleftrightharpoon}{PU}{\9051\112}%\* U+294A  
 20047 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightlefthar-  
 poon (mathabx)  
 20048 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%\* U+294B  
 20049 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;  
 20050 % \updownharpoonrightleft (MnSymbol)  
 20051 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%\* U+294C  
 20052 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;  
 20053 % \updownharpoonleftright (MnSymbol)  
 20054 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%\* U+294D  
 20055 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS  
 20056 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)  
 20057 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%\* U+2962  
 20058 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS  
 20059 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)  
 20060 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%\* U+2963  
 20061 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-  
 WARDS HARPOON  
 20062 % WITH BARB DOWN; \rightrightarpoons (mathabx)  
 20063 \DeclareTextCommand{\textrightarpoons}{PU}{\9051\144}%\* U+2964  
 20064 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 20065 % WITH BARB RIGHT; \downdownharpoons (mathabx)  
 20066 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%\* U+2965  
 20067 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;  
 20068 % \leftbarharpoon (mathabx)  
 20069 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%\* U+296A

20070 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW  
 20071 % LONG DASH; \barleftharpoon (mathabx)  
 20072 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%\* U+296B  
 20073 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE  
 20074 % LONG DASH; \rightbarharpoon (mathabx)  
 20075 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%\* U+296C  
 20076 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW  
 20077 % LONG DASH; \barrightharpoon (mathabx)  
 20078 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%\* U+296D  
 20079 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 20080 % WITH BARB RIGHT; \updownharpoons (mathabx)  
 20081 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%\* U+296E  
 20082 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-  
 WARDS HARPOON  
 20083 % WITH BARB RIGHT; \downupharpoons (mathabx)  
 20084 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%\* U+296F  
 20085 % U+297F DOWN FISH TAIL  
 20086 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%\* U+297F U+0336

#### 51.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

20087 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \llparenthesis (stmaryrd)  
 20088 \DeclareTextCommand{\textllparenthesis}{PU}{\9051\207}%\* U+2987  
 20089 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)  
 20090 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%\* U+2988  
 20091 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)  
 20092 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%\* U+29B0  
 20093 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)  
 20094 \DeclareTextCommand{\textobar}{PU}{\9051\266}%\* U+29B6  
 20095 %\* \textobar -> \textvarobar (stmaryrd)  
 20096 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)  
 20097 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%\* U+29B8  
 20098 %\* \textobslash -> \circledbslash (txfonts/pxfonts)  
 20099 %\* \textobslash -> \backslash (mathabx)  
 20100 %\* \textobslash -> \varobslash (stmaryrd)  
 20101 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF  
 20102 DIVIDED BY VERTICAL BAR; \obot (mathabx)  
 20103 \DeclareTextCommand{\textobot}{PU}{\9051\272}%\* U+29BA  
 20104 %\* \textobot -> \odplus (ulsy)  
 20105 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (mar-  
 vosym)  
 20106 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%\* U+29BB  
 20107 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)  
 20108 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%\* U+29C0  
 20109 %\* \textolessthan -> \varolessthan (stmaryrd)  
 20110 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)  
 20111 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%\* U+29C1  
 20112 %\* \textogreaterthan -> \varogreaterthan (stmaryrd)  
 20113 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)  
 20114 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%\* U+29C4

20115 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)  
 20116 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%\* U+29C5  
 20117 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)  
 20118 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%\* U+29C6  
 20119 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)  
 20120 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%\* U+29C7  
 20121 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)  
 20122 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%\* U+29C8  
 20123 % U+29D3 BLACK BOWTIE; \Valve (marvosym)  
 20124 \DeclareTextCommand{\textValve}{PU}{\9051\323}%\* U+29D3  
 20125 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)  
 20126 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%\* U+29DF  
 20127 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)  
 20128 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%\* U+29E2

### 51.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

20129 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)  
 20130 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%\* U+2A04  
 20131 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)  
 20132 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%\* U+2A07  
 20133 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)  
 20134 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%\* U+2A08  
 20135 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,  
 20136 % pxfonts, wasysym)  
 20137 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%\* U+2A1D  
 20138 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)  
 20139 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%\* U+2A1F  
 20140 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)  
 20141 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%\* U+2A22  
 20142 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)  
 20143 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%\* U+2A2A  
 20144 %\* \textminusdot -> \divdot (mathabx)  
 20145 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (mathabx)  
 20146 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%\* U+2A30  
 20147 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;  
 20148 % \dtimes (mathdesign)  
 20149 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%\* U+2A32  
 20150 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)  
 20151 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%\* U+2A38  
 20152 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)  
 20153 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%\* U+2A3C  
 20154 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)  
 20155 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%\* U+2A4E  
 20156 %\* \textsqdoublecap -> \doublesqcap (MnSymbol)  
 20157 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)  
 20158 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%\* U+2A40  
 20159 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)  
 20160 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%\* U+2A4F  
 20161 %\* \textsqdoublecup -> \doublesqcup (MnSymbol)  
 20162 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)

20163 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%\* U+2A55  
 20164 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)  
 20165 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%\* U+2A56  
 20166 %\* \textdoublevee -> \merge (stmaryrd)  
 20167 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;  
 20168 % \doublebarwedge (AmS)  
 20169 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%\* U+2A5E  
 20170 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;  
 20171 % \veedoublebar (mahtabx)  
 20172 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%\* U+2A63  
 20173 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)  
 20174 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%\* U+2A66  
 20175 % \neqdot (MnSymbol)  
 20176 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%\* U+2A66 U+0338  
 20177 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)  
 20178 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%\* U+2A74  
 20179 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)  
 20180 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%\* U+2A7D  
 20181 % \nleqslant (txfonts/pxfonts)  
 20182 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%\* U+2A7D U+0338  
 20183 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)  
 20184 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%\* U+2A7E  
 20185 % \ngeqslant (txfonts/pxfonts)  
 20186 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%\* U+2A7E U+0338  
 20187 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)  
 20188 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%\* U+2A85  
 20189 % \nlessapprox (txfonts/pxfonts)  
 20190 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%\* U+2A85 U+0338  
 20191 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)  
 20192 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%\* U+2A86  
 20193 % \ngtrapprox (txfonts/pxfonts)  
 20194 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%\* U+2A86 U+0338  
 20195 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)  
 20196 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%\* U+2A87  
 20197 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;  
 20198 % \gneq (AmS)  
 20199 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%\* U+2A88  
 20200 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)  
 20201 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%\* U+2A89  
 20202 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)  
 20203 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%\* U+2A8A  
 20204 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-THAN;  
 20205 % \lesseqgtr (AmS)  
 20206 \DeclareTextCommand{\textlesseqgtr}{PU}{\9052\213}%\* U+2A8B  
 20207 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-THAN;  
 20208 % \gtreqless (AmS)  
 20209 \DeclareTextCommand{\textgtreqless}{PU}{\9052\214}%\* U+2A8C  
 20210 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)  
 20211 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%\* U+2A95  
 20212 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)



20213 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%\* U+2A96  
 20214 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)  
 20215 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%\* U+2AA6  
 20216 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)  
 20217 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%\* U+2AA7  
 20218 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-Symbol)  
 20219 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%\* U+2AAF  
 20220 % \npreceq (txfonts/pxfonts)  
 20221 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%\* U+2AAF U+0338  
 20222 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-Symbol)  
 20223 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%\* U+2AB0  
 20224 % \nsucceq (txfonts/pxfonts)  
 20225 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%\* U+2AB0 U+0338  
 20226 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \precneq (mathabx)  
 20227 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%\* U+2AB1  
 20228 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succneq (mathabx)  
 20229 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%\* U+2AB2  
 20230 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)  
 20231 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%\* U+2AB3  
 20232 % \npreceqq (txfonts/pxfonts)  
 20233 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%\* U+2AB3 U+0338  
 20234 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)  
 20235 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%\* U+2AB4  
 20236 % \nsucceqq (txfonts/pxfonts)  
 20237 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%\* U+2AB4 U+0338  
 20238 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)  
 20239 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%\* U+2AB5  
 20240 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)  
 20241 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%\* U+2AB6  
 20242 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)  
 20243 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%\* U+2AB7  
 20244 % \nprecapprox (txfonts/pxfonts)  
 20245 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%\* U+2AB7 U+0338  
 20246 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)  
 20247 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%\* U+2AB8  
 20248 % \nsuccapprox (txfonts/pxfonts)  
 20249 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%\* U+2AB8 U+0338  
 20250 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnapprox (AmS)  
 20251 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%\* U+2AB9  
 20252 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnapprox (AmS)  
 20253 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%\* U+2ABA  
 20254 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)  
 20255 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%\* U+2AC5  
 20256 % \nsubseteqq (txfonts/pxfonts, mathabx)

20257 \DeclareTextCommand{\textnsubsepeq}{PU}{\9052\305\83\070}%\* U+2AC5 U+0338  
 20258 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteq (AmS)  
 20259 \DeclareTextCommand{\textsupseteq}{PU}{\9052\306}%\* U+2AC6  
 20260 % \nsupseteq (mathabx)  
 20261 \DeclareTextCommand{\textnsupseteq}{PU}{\9052\306\83\070}%\* U+2AC6 U+0338  
 20262 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE  
 20263 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%\* U+2AE3  
 20264 %\* \textdashV -> \leftVdash (MnSymbol)  
 20265 % \ndashV (mathabx)  
 20266 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%\* U+2AE3 U+0338  
 20267 %\* \textndashV -> \nleftVdash (MnSymbol)  
 20268 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)  
 20269 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%\* U+2AE4  
 20270 %\* \textDashv -> \leftmodels (MnSymbol)  
 20271 % \nDashv (mathabx)  
 20272 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%\* U+2AE4 U+0338  
 20273 %\* \textnDashv -> \nleftmodels (MnSymbol)  
 20274 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;  
 20275 % \DashV (mathabx)  
 20276 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%\* U+2AE5  
 20277 %\* \textDashV -> \leftModels (MnSymbol)  
 20278 % \nDashV (mathabx)  
 20279 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%\* U+2AE5 U+0338  
 20280 %\* \textnDashV -> \nleftModels (MnSymbol)  
 20281 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)  
 20282 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%\* U+2AEA  
 20283 % \ndownmodels (MnSymbol)  
 20284 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%\* U+2AEA U+0338  
 20285 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)  
 20286 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%\* U+2AEB  
 20287 % \nupmodels (MnSymbol)  
 20288 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%\* U+2AEB U+0338  
 20289 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)  
 20290 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%\* U+2AEF  
 20291 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;  
 20292 % \interleave (stmaryrd)  
 20293 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%\* U+2AF4  
 20294 % U+2AFD DOUBLE SOLIDUS OPERATOR; \sslash (stmaryrd)  
 20295 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%\* U+2AFD  
 20296 %\* \textsslash -> \varparallel (txfonts\pxfonts)

### 51.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

20297 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)  
 20298 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%\* U+2B20  
 20299 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)  
 20300 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%\* U+2B21

### 51.2.37 Latin Extended-C: U+2C60 to U+2C7F

20301 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J  
 20302 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%\* U+2C7C

### 51.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

20303 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)  
20304 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%\* U+2E13  
20305 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)  
20306 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18  
20307 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)  
20308 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%\* U+2E2D

### 51.2.39 Modifier Tone Letters: U+A700 to U+A71F

20309 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)  
20310 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B  
20311 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;  
20312 % \textdownstep (tipa)  
20313 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

### 51.2.40 Latin Extended-D: U+A720 to U+A7FF

20314 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)  
20315 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727  
20316 %\* \textPUheng -> \textheng (tipx)  
20317 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)  
20318 \DeclareTextCommand{\textPUIhookfour}{PU}{\9247\054}% U+A72C  
20319 %\* \textPUIhookfour -> \textlhookfour (tipx)  
20320 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)  
20321 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730  
20322 %\* \textPUscf -> \textscf (tipx)  
20323 % U+A735 LATIN SMALL LETTER AO; \textaoilig (tipx)  
20324 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735  
20325 %\* \textPUaolig -> \textaoilig (tipx)  
20326 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)  
20327 \DeclareTextCommand{\textoo}{PU}{\9247\117}%\* U+A74F  
20328 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT  
20329 \DeclareTextCommand{\textcircumlow}{PU}{\9247\210}% U+A788

### 51.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

20330 % U+FB01 LATIN SMALL LIGATURE FI; fi  
20331 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
20332 % U+FB02 LATIN SMALL LIGATURE FL; fl  
20333 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 51.2.42 Musical Symbols: U+1D100 to U+1D1FF

20334 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)  
20335 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%\* U+1D13B  
20336 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)  
20337 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%\* U+1D13C  
20338 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)  
20339 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%\* U+1D13D  
20340 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)  
20341 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%\* U+1D13E  
20342 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)

20343 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%\* U+1D13F  
 20344 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)  
 20345 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%\* U+1D140  
 20346 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)  
 20347 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%\* U+1D15D  
 20348 %\* \textfullnote -> \Ganz (harmony)  
 20349 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)  
 20350 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%\* U+1D15E  
 20351 %\* \texthalfnote -> \Halb (harmony)  
 20352 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)  
 20353 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%\* U+1D15F  
 20354 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)  
 20355 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%\* U+1D160  
 20356 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)  
 20357 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%\* U+1D161  
 20358 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)  
 20359 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%\* U+1D162

#### 51.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

20360 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)  
 20361 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%\* U+1F30D  
 20362 % U+1F319 CRESCENT MOON; \Moon (marvosym)  
 20363 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%\* U+1F319  
 20364 % U+1F468 MAN; \ManFace (marvosym)  
 20365 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%\* U+1F468  
 20366 % U+1F469 WOMAN; \WomanFace (marvosym)  
 20367 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%\* U+1F469  
 20368 %\* \textWomanFace -> \Womanface (marvosym)  
 20369 % U+1F4E0 FAX MACHINE; \Fax (marvosym)  
 20370 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%\* U+1F4E0  
 20371 %\* \textFax -> \Faxmachine (marvosym)  
 20372 % U+1F525 FIRE; \Fire (ifsym)  
 20373 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%\* U+1F525

#### 51.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

20374 % U+1F6B2 BICYCLE; \Bicycle (marvosym)  
 20375 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%\* U+1F6B2  
 20376 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)  
 20377 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%\* U+1F6B9  
 20378 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)  
 20379 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%\* U+1F6BA

#### 51.2.45 Miscellaneous

20380 \DeclareTextCommand{\SS}{PU}{SS}%  
 20381 % \textcopyleft (textcomp)  
 20382 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD  
 20383 % \ccnc (cclicenss)  
 20384 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%\* U+0024 U+20E0  
 20385 % \ccnd (cclicenss)  
 20386 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%\* U+003D U+20DD

```

20387 % \ccsa (ccllicenses)
20388 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%* U+27F2 U+20DD
20389 % \Info (marvosym, china2e)
20390 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%* U+1D422 U+20DE
20391 % \CESign (marvosym)
20392 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%* U+0043 U+0045
20393 %* \textCESign -> \CESign (marvosym)

```

### 51.2.46 Aliases

Aliases (german.sty)

```

20394 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%
20395 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%
20396 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
20397 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
20398 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}%
20399 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}%
20400 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
20401 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%

```

Aliases (math names)

```

20402 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
20403 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
20404 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
20405 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
20406 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
20407 </puenc>

```

## 51.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

20408 <*puvnenc>
20409 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
20410 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
20411 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
20412 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
20413 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
20414 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
20415 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
20416 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
20417 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
20418 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
20419 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
20420 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF
20421 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
20422 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
20423 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0
20424 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
20425 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3

```

20426 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF  
 20427 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7  
 20428 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}% U+1EB1  
 20429 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3  
 20430 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5  
 20431 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5  
 20432 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD  
 20433 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}% U+1EA7  
 20434 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9  
 20435 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB  
 20436 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
 20437 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
 20438 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
 20439 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB  
 20440 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 20441 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF  
 20442 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7  
 20443 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}% U+1EC1  
 20444 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3  
 20445 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5  
 20446 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 20447 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
 20448 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 20449 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9  
 20450 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 20451 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 20452 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
 20453 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
 20454 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF  
 20455 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 20456 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1  
 20457 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9  
 20458 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}% U+1ED3  
 20459 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5  
 20460 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7  
 20461 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB  
 20462 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3  
 20463 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}% U+1EDD  
 20464 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF  
 20465 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1  
 20466 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 20467 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
 20468 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 20469 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7  
 20470 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 20471 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9  
 20472 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1  
 20473 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}% U+1EEB  
 20474 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED  
 20475 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF

20476 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 20477 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 20478 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 20479 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7  
 20480 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9  
 20481 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
 20482 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
 20483 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}% U+00C0  
 20484 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2  
 20485 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
 20486 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE  
 20487 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6  
 20488 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}% U+1EB0  
 20489 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2  
 20490 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4  
 20491 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4  
 20492 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC  
 20493 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6  
 20494 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8  
 20495 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA  
 20496 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
 20497 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
 20498 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}% U+00C8  
 20499 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA  
 20500 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 20501 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE  
 20502 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6  
 20503 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0  
 20504 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2  
 20505 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4  
 20506 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
 20507 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
 20508 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}% U+00CC  
 20509 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8  
 20510 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
 20511 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
 20512 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
 20513 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}% U+00D2  
 20514 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE  
 20515 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
 20516 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0  
 20517 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8  
 20518 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2  
 20519 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4  
 20520 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6  
 20521 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA  
 20522 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2  
 20523 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}% U+1EDC  
 20524 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE  
 20525 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0

```

20526 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
20527 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
20528 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9
20529 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6
20530 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
20531 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8
20532 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
20533 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}% U+1EEA
20534 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
20535 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
20536 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
20537 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
20538 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2
20539 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
20540 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
20541 </puvnenc>

```

## 51.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

20542 <*puarenc>
20543 % U+0621;afii57409;ARABIC LETTER HAMZA
20544 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
20545 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
20546 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
20547 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
20548 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
20549 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
20550 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
20551 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
20552 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
20553 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
20554 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626
20555 % U+0627;afii57415;ARABIC LETTER ALEF
20556 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627
20557 % U+0628;afii57416;ARABIC LETTER BEH
20558 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628
20559 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA
20560 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629
20561 % U+062A;afii57418;ARABIC LETTER TEH
20562 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A
20563 % U+062B;afii57419;ARABIC LETTER THEH
20564 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B
20565 % U+062C;afii57420;ARABIC LETTER JEEM
20566 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C
20567 % U+062D;afii57421;ARABIC LETTER HAH
20568 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D
20569 % U+062E;afii57422;ARABIC LETTER KHAH

```



20570 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E  
 20571 % U+062F;afii57423;ARABIC LETTER DAL  
 20572 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F  
 20573 % U+0630;afii57424;ARABIC LETTER THAL  
 20574 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630  
 20575 % U+0631;afii57425;ARABIC LETTER REH  
 20576 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631  
 20577 % U+0632;afii57426;ARABIC LETTER ZAIN  
 20578 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632  
 20579 % U+0633;afii57427;ARABIC LETTER SEEN  
 20580 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633  
 20581 % U+0634;afii57428;ARABIC LETTER SHEEN  
 20582 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634  
 20583 % U+0635;afii57429;ARABIC LETTER SAD  
 20584 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635  
 20585 % U+0636;afii57430;ARABIC LETTER DAD  
 20586 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636  
 20587 % U+0637;afii57431;ARABIC LETTER TAH  
 20588 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637  
 20589 % U+0638;afii57432;ARABIC LETTER ZAH  
 20590 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638  
 20591 % U+0639;afii57433;ARABIC LETTER AIN  
 20592 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639  
 20593 % U+063A;afii57434;ARABIC LETTER GHAIN  
 20594 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A  
 20595 % U+0640;afii57440;ARABIC TATWEEL  
 20596 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640  
 20597 % U+0641;afii57441;ARABIC LETTER FEH  
 20598 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641  
 20599 % U+0642;afii57442;ARABIC LETTER QAF  
 20600 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642  
 20601 % U+0643;afii57443;ARABIC LETTER KAF  
 20602 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643  
 20603 % U+0644;afii57444;ARABIC LETTER LAM  
 20604 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644  
 20605 % U+0645;afii57445;ARABIC LETTER MEEM  
 20606 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645  
 20607 % U+0646;afii57446;ARABIC LETTER NOON  
 20608 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646  
 20609 % U+0647;afii57470;ARABIC LETTER HEH  
 20610 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647  
 20611 % U+0648;afii57448;ARABIC LETTER WAW  
 20612 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648  
 20613 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA  
 20614 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649  
 20615 % U+064A;afii57450;ARABIC LETTER YEH  
 20616 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A  
 20617 % U+064B;afii57451;ARABIC FATHATAN  
 20618 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B

20619 % U+064C;afii57452;ARABIC DAMMATAN  
 20620 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C  
 20621 % U+064D;afii57453;ARABIC KASRATAN  
 20622 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D  
 20623 % U+064E;afii57454;ARABIC FATHA  
 20624 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E  
 20625 % U+064F;afii57455;ARABIC DAMMA  
 20626 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F  
 20627 % U+0650;afii57456;ARABIC KASRA  
 20628 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650  
 20629 % U+0651;afii57457;ARABIC SHADDA  
 20630 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651  
 20631 % U+0652;afii57458;ARABIC SUKUN  
 20632 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652  
  
 Farsi  
 20633 % U+067E ARABIC LETTER PEH; afii57506  
 20634 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E  
 20635 % U+0686 ARABIC LETTER TCHEH; afii57507  
 20636 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686  
 20637 % U+0698 ARABIC LETTER JEH; afii57508  
 20638 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698  
 20639 % U+06A9 ARABIC LETTER KEHEH  
 20640 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9  
 20641 % U+06AF ARABIC LETTER GAF; afii57509  
 20642 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF  
 20643 % U+06CC ARABIC LETTER FARSI YEH  
 20644 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC  
  
 20645 % U+200C ZERO WIDTH NON-JOINER; afii61664  
 20646 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C  
 20647 % U+200D ZERO WIDTH JOINER; afii301  
 20648 \DeclareTextCommand{\noboundary}{PU}{\9040\015}% U+200D  
  
 20649 </puarenc>  
 20650 <\*psdextra>  
 20651 \Hy@VersionCheck{psdextra.def}  
 20652 \newcommand\*{\psdmapshortnames}{%  
 20653 \let\MVPlus\textMVPlus  
 20654 \let\MVComma\textMVComma  
 20655 \let\MVMinus\textMVMinus  
 20656 \let\MVPeriod\textMVPeriod  
 20657 \let\MVDivision\textMVDivision  
 20658 \let\MVZero\textMVZero  
 20659 \let\MVOne\textMVOne  
 20660 \let\MVTwo\textMVTwo  
 20661 \let\MVThree\textMVThree  
 20662 \let\MVFour\textMVFfour  
 20663 \let\MVFive\textMVFfive  
 20664 \let\MVSix\textMVSix  
 20665 \let\MVSeven\textMVSeven

20666 \let\MVEight\textMVEight  
 20667 \let\MVNNine\textMVNNine  
 20668 \let\MVAt\textMVAt  
 20669 \let\copyright\textcopyright  
 20670 \let\twosuperior\texttwosuperior  
 20671 \let\threesuperior\textthreesuperior  
 20672 \let\onesuperior\textonesuperior  
 20673 \let\Thorn\textThorn  
 20674 \let\thorn\textthorn  
 20675 \let\hbar\texthbar  
 20676 \let\hausab\texthausab  
 20677 \let\hausad\texthausad  
 20678 \let\hausak\texthausak  
 20679 \let\barl\textbarl  
 20680 \let\inve\textinve  
 20681 \let\slashc\textslashc  
 20682 \let\scripta\textscripta  
 20683 \let\openo\textopeno  
 20684 \let\rtaild\textrtaild  
 20685 \let\reve\textreve  
 20686 \let\schwa\textschwa  
 20687 \let\niepsilon\textniepsilon  
 20688 \let\revepsilon\textrevepsilon  
 20689 \let\rhookrevepsilon\texthookrevepsilon  
 20690 \let\scriptg\textscriptg  
 20691 \let\scg\textscg  
 20692 \let\ipagamma\textipagamma  
 20693 \let\babygamma\textbabygamma  
 20694 \let\bari\textbari  
 20695 \let\niiota\textniiota  
 20696 \let\sci\textsci  
 20697 \let\scn\textscn  
 20698 \let\niphi\textniphi  
 20699 \let\longlegr\textlonglegr  
 20700 \let\scr\textscr  
 20701 \let\invscr\textinvscr  
 20702 \let\esh\textesh  
 20703 \let\baru\textbaru  
 20704 \let\niupsilon\textniupsilon  
 20705 \let\scriptv\textscriptv  
 20706 \let\turnv\textturnv  
 20707 \let\turnw\textturnw  
 20708 \let\turny\textturny  
 20709 \let\scy\textscy  
 20710 \let\yogh\textyogh  
 20711 \let\glotstop\textglotstop  
 20712 \let\revglotstop\textrevglotstop  
 20713 \let\invglotstop\textinvglotstop  
 20714 \let\Gamma\textGamma  
 20715 \let\Delta\textDelta

20716 \let\Theta\textTheta  
 20717 \let\Lambda\textLambda  
 20718 \let\Xi\textXi  
 20719 \let\Pi\textPi  
 20720 \let\Sigma\textSigma  
 20721 \let\Upsilon\textUpsilon  
 20722 \let\Phi\textPhi  
 20723 \let\Psi\textPsi  
 20724 \let\Omega\textOmega  
 20725 \let\alpha\textalpha  
 20726 \let\beta\textbeta  
 20727 \let\gamma\textgamma  
 20728 \let\delta\textdelta  
 20729 \let\epsilon\textepsilon  
 20730 \let\zeta\textzeta  
 20731 \let\eta\texteta  
 20732 \let\theta\texttheta  
 20733 \let\iota\textiota  
 20734 \let\kappa\textkappa  
 20735 \let\lambda\textlambda  
 20736 \let\mugreek\textmugreek  
 20737 \let\nu\textnu  
 20738 \let\xi\textxi  
 20739 \let\pi\textpi  
 20740 \let\rho\textrho  
 20741 \let\varsigma\textvarsigma  
 20742 \let\sigma\textsigma  
 20743 \let\tau\texttau  
 20744 \let\upsilon\textupsilon  
 20745 \let\phi\textphi  
 20746 \let\chi\textchi  
 20747 \let\psi\textpsi  
 20748 \let\omega\textomega  
 20749 \let\scd\textscd  
 20750 \let\scu\textscu  
 20751 \let\iinferior\textiinferior  
 20752 \let\rinferior\textrinferior  
 20753 \let\uinferior\textuinferior  
 20754 \let\vinferior\textvinferior  
 20755 \let\betainferior\textbetainferior  
 20756 \let\gammainferior\textgammainferior  
 20757 \let\rhoinferior\textrhoinferior  
 20758 \let\phiinferior\textphiinferior  
 20759 \let\chiinferior\textchiinferior  
 20760 \let\barsci\textbarsci  
 20761 \let\barp\textbarp  
 20762 \let\barscu\textbarscu  
 20763 \let\htrtaild\texthtrtaild  
 20764 \let\dagger\textdagger  
 20765 \let\bullet\textbullet

20766 \let\hdotfor\texthdotfor  
 20767 \let\prime\textprime  
 20768 \let\second\textsecond  
 20769 \let\third\textthird  
 20770 \let\backprime\textbackprime  
 20771 \let\lefttherefore\textlefttherefore  
 20772 \let\fourth\textfourth  
 20773 \let\diamonddots\textdiamonddots  
 20774 \let\zerosuperior\textzerosuperior  
 20775 \let\isuperior\textisuperior  
 20776 \let\foursuperior\textfoursuperior  
 20777 \let\fivesuperior\textfivesuperior  
 20778 \let\sixsuperior\textsixsuperior  
 20779 \let\sevensuperior\textsevensuperior  
 20780 \let\eightsuperior\texteightsuperior  
 20781 \let\minesuperior\textminesuperior  
 20782 \let\plussuperior\textplussuperior  
 20783 \let\minussuperior\textminussuperior  
 20784 \let>equalsuperior\textequalsuperior  
 20785 \let\parenleftsuperior\textparenleftsuperior  
 20786 \let\parenrightsuperior\textparenrightsuperior  
 20787 \let\nsuperior\textnsuperior  
 20788 \let\zeroinferior\textzeroinferior  
 20789 \let\oneinferior\textoneinferior  
 20790 \let\twoinferior\texttwoinferior  
 20791 \let\threeinferior\textthreeinferior  
 20792 \let\fourinferior\textfourinferior  
 20793 \let\fiveinferior\textfiveinferior  
 20794 \let\sixinferior\textsixinferior  
 20795 \let\seveninferior\textseveninferior  
 20796 \let\eightinferior\texteightinferior  
 20797 \let\nineinferior\textnineinferior  
 20798 \let\plusinferior\textplusinferior  
 20799 \let\minusinferior\textminusinferior  
 20800 \let>equalsinferior\textequalsinferior  
 20801 \let\parenleftinferior\textparenleftinferior  
 20802 \let\parenrightinferior\textparenrightinferior  
 20803 \let\ainferior\textainferior  
 20804 \let\einferior\texteinferior  
 20805 \let\oinferior\textoinferior  
 20806 \let\xinferior\textxinferior  
 20807 \let\schwainferior\textschwainferior  
 20808 \let\hinferior\texthinferior  
 20809 \let\kinferior\textkinferior  
 20810 \let\linferior\textlinferior  
 20811 \let\mininferior\textmininferior  
 20812 \let\نینferior\textninferior  
 20813 \let\pinferior\textpinferior  
 20814 \let\sinferior\textsinferior  
 20815 \let\тинferior\texttinferior

20816 \let\Deleatur\textDeleatur  
 20817 \let\hslash\texthslash  
 20818 \let\Im\textIm  
 20819 \let\ell\textell  
 20820 \let\wp\textwp  
 20821 \let\Re\textRe  
 20822 \let\mho\textmho  
 20823 \let\riota\textriota  
 20824 \let\Finv\textFinv  
 20825 \let\aleph\textaleph  
 20826 \let\beth\textbeth  
 20827 \let\gimel\textgimel  
 20828 \let\daleth\textdaleth  
 20829 \let\xfax\textfax  
 20830 \let\Game\textGame  
 20831 \let\leftarrow\textleftarrow  
 20832 \let\uparrow\textuparrow  
 20833 \let\rightarrow\textrightarrow  
 20834 \let\downarrow\textdownarrow  
 20835 \let\leftrightarrow\textleftrightarrow  
 20836 \let\updownarrow\textupdownarrow  
 20837 \let\nwarrow\textnwarrow  
 20838 \let\nearrow\textnearrow  
 20839 \let\searrow\textsearrow  
 20840 \let\swarrow\textswarrow  
 20841 \let\nleftarrow\textnleftarrow  
 20842 \let\nrightarrow\textnrightarrow  
 20843 \let\twoheadleftarrow\texttwoheadleftarrow  
 20844 \let\ntwoheadleftarrow\textntwoheadleftarrow  
 20845 \let\twoheaduparrow\texttwoheaduparrow  
 20846 \let\twoheadrightarrow\texttwoheadrightarrow  
 20847 \let\ntwoheadrightarrow\textntwoheadrightarrow  
 20848 \let\twoheaddownarrow\texttwoheaddownarrow  
 20849 \let\leftarrowtail\textleftarrowtail  
 20850 \let\rightarrowtail\textrightarrowtail  
 20851 \let\mapsto\textmapsto  
 20852 \let\hookleftarrow\texthookleftarrow  
 20853 \let\hookrightarrow\texthookrightarrow  
 20854 \let\looparrowleft\textlooparrowleft  
 20855 \let\looparrowright\textlooparrowright  
 20856 \let\leftrightharpoonup\textleftrightharpoonup  
 20857 \let\lightning\textlightning  
 20858 \let\dls\textdls  
 20859 \let\curvearrowleft\textcurvearrowleft  
 20860 \let\curvearrowright\textcurvearrowright  
 20861 \let\leftharpoonup\textleftharpoonup  
 20862 \let\leftharpoondown\textleftharpoondown  
 20863 \let\upharpoonright\textupharpoonright  
 20864 \let\upharpoonleft\textupharpoonleft  
 20865 \let\rightharpoonup\text\rightharpoonup

20866  $\backslash\mathrm{rightharpoondown}\text{rightharpoondown}$   
 20867  $\backslash\mathrm{downharpoonright}\text{downharpoonright}$   
 20868  $\backslash\mathrm{downharpoonleft}\text{downharpoonleft}$   
 20869  $\backslash\mathrm{rightleftarrows}\text{rightleftarrows}$   
 20870  $\backslash\mathrm{updownarrows}\text{updownarrows}$   
 20871  $\backslash\mathrm{leftrightarrows}\text{leftrightarrows}$   
 20872  $\backslash\mathrm{leftleftarrows}\text{leftleftarrows}$   
 20873  $\backslash\mathrm{upuparrows}\text{upuparrows}$   
 20874  $\backslash\mathrm{rightrightarrows}\text{rightrightarrows}$   
 20875  $\backslash\mathrm{downdownarrows}\text{downdownarrows}$   
 20876  $\backslash\mathrm{leftrightharpoons}\text{leftrightharpoons}$   
 20877  $\backslash\mathrm{rightleftharpoons}\text{rightleftharpoons}$   
 20878  $\backslash\mathrm{nLeftarrow}\text{nLeftarrow}$   
 20879  $\backslash\mathrm{nLeftrightarrow}\text{nLeftrightarrow}$   
 20880  $\backslash\mathrm{nRrightarrow}\text{nRrightarrow}$   
 20881  $\backslash\mathrm{Leftarrow}\text{Leftarrow}$   
 20882  $\backslash\mathrm{Uparrow}\text{Uparrow}$   
 20883  $\backslash\mathrm{Rrightarrow}\text{Rrightarrow}$   
 20884  $\backslash\mathrm{Downarrow}\text{Downarrow}$   
 20885  $\backslash\mathrm{Leftrightarrow}\text{Leftrightarrow}$   
 20886  $\backslash\mathrm{Updownarrow}\text{Updownarrow}$   
 20887  $\backslash\mathrm{Nwarrow}\text{Nwarrow}$   
 20888  $\backslash\mathrm{Nearrow}\text{Nearrow}$   
 20889  $\backslash\mathrm{Searrow}\text{Searrow}$   
 20890  $\backslash\mathrm{Swarrow}\text{Swarrow}$   
 20891  $\backslash\mathrm{Lleftarrow}\text{Lleftarrow}$   
 20892  $\backslash\mathrm{Rrightarrow}\text{Rrightarrow}$   
 20893  $\backslash\mathrm{leftsquigarrow}\text{leftsquigarrow}$   
 20894  $\backslash\mathrm{rightsquigarrow}\text{rightsquigarrow}$   
 20895  $\backslash\mathrm{dashleftarrow}\text{dashleftarrow}$   
 20896  $\backslash\mathrm{dasheduparrow}\text{dasheduparrow}$   
 20897  $\backslash\mathrm{dashrightarrow}\text{dashrightarrow}$   
 20898  $\backslash\mathrm{dasheddownarrow}\text{dasheddownarrow}$   
 20899  $\backslash\mathrm{pointer}\text{pointer}$   
 20900  $\backslash\mathrm{downuparrows}\text{downuparrows}$   
 20901  $\backslash\mathrm{leftarrowtriangle}\text{leftarrowtriangle}$   
 20902  $\backslash\mathrm{rightarrowtriangle}\text{rightarrowtriangle}$   
 20903  $\backslash\mathrm{leftrightarrowtriangle}\text{leftrightarrowtriangle}$   
 20904  $\backslash\mathrm{forall}\text{forall}$   
 20905  $\backslash\mathrm{complement}\text{complement}$   
 20906  $\backslash\mathrm{partial}\text{partial}$   
 20907  $\backslash\mathrm{exists}\text{exists}$   
 20908  $\backslash\mathrm{nexists}\text{nexists}$   
 20909  $\backslash\mathrm{emptyset}\text{emptyset}$   
 20910  $\backslash\mathrm{triangle}\text{triangle}$   
 20911  $\backslash\mathrm{nabla}\text{nabla}$   
 20912  $\backslash\mathrm{in}\text{in}$   
 20913  $\backslash\mathrm{notin}\text{notin}$   
 20914  $\backslash\mathrm{smallin}\text{smallin}$   
 20915  $\backslash\mathrm{ni}\text{ni}$

20916 `\let\notowner\textnotowner`  
 20917 `\let\smallowns\textsmallowns`  
 20918 `\let\prod\textprod`  
 20919 `\let\amalg\textamalg`  
 20920 `\let\sum\textsum`  
 20921 `\let\mp\textmp`  
 20922 `\let\dotplus\textdotplus`  
 20923 `\let\Divides\textDivides`  
 20924 `\let\DividesNot\textDividesNot`  
 20925 `\let\setminus\textsetminus`  
 20926 `\let\ast\textast`  
 20927 `\let\circ\textcirc`  
 20928 `\let\surd\textsurd`  
 20929 `\let\propto\textpropto`  
 20930 `\let\infty\textinfty`  
 20931 `\let\angle\textangle`  
 20932 `\let\measuredangle\textmeasuredangle`  
 20933 `\let\sphericalangle\textsphericalangle`  
 20934 `\let\mid\textmid`  
 20935 `\let\nmid\textnmid`  
 20936 `\let\parallel\textparallel`  
 20937 `\let\nparallel\textnparallel`  
 20938 `\let\wedge\textwedge`  
 20939 `\let\owedge\textowedge`  
 20940 `\let\vee\textvee`  
 20941 `\let\ovee\textovee`  
 20942 `\let\cap\textcap`  
 20943 `\let\cup\textcup`  
 20944 `\let\int\textint`  
 20945 `\let\iint\textiint`  
 20946 `\let\iiint\textiiint`  
 20947 `\let\oint\textoint`  
 20948 `\let\oiint\textoiint`  
 20949 `\let\ointclockwise\textointclockwise`  
 20950 `\let\ointctrlockwise\textointctrlockwise`  
 20951 `\let\therefore\texttherefore`  
 20952 `\let\because\textbecause`  
 20953 `\let\vdots\textvdots`  
 20954 `\let\squaredots\textsquaredots`  
 20955 `\let\dotminus\textdotminus`  
 20956 `\let\eqcolon\texteqcolon`  
 20957 `\let\sim\textsim`  
 20958 `\let\backsim\textbacksim`  
 20959 `\let\nbacksim\textnbacksim`  
 20960 `\let\wr\textwr`  
 20961 `\let\sim\textsim`  
 20962 `\let\eqsim\texteqsim`  
 20963 `\let\neqsim\textneqsim`  
 20964 `\let\simeq\textsimeq`  
 20965 `\let\sim\textsim`



20966 \let\cong\textcong  
 20967 \let\ncong\textncong  
 20968 \let\approx\textapprox  
 20969 \let\napprox\textnapprox  
 20970 \let\approxeq\textapproxeq  
 20971 \let\napproxeq\textnapproxeq  
 20972 \let\triplesim\texttriplesim  
 20973 \let\ntriplesim\textntriplesim  
 20974 \let\backcong\textbackcong  
 20975 \let\nbackcong\textnbackcong  
 20976 \let\asympt\textasympt  
 20977 \let\nasympt\textnasympt  
 20978 \let\Bumpeq\textBumpeq  
 20979 \let\nBumpeq\textnBumpeq  
 20980 \let\bumpeq\textbumpeq  
 20981 \let\nbumpeq\textnbumpeq  
 20982 \let\doteq\textdoteq  
 20983 \let\ndoteq\textndoteq  
 20984 \let\doteqdot\textdoteqdot  
 20985 \let\NDoteq\textNDoteq  
 20986 \let\fallingdoteq\textfallingdoteq  
 20987 \let\ndfallingdoteq\textndfallingdoteq  
 20988 \let\risingdoteq\textrisingdoteq  
 20989 \let\ndrisingdoteq\textndrisingdoteq  
 20990 \let\colonequals\textcolonequals  
 20991 \let\equalscolon\textequalscolon  
 20992 \let\eqcirc\texteqcirc  
 20993 \let\neqcirc\textneqcirc  
 20994 \let\circeq\textcirceq  
 20995 \let\ncirceq\textncirceq  
 20996 \let\hateq\texthateq  
 20997 \let\nhateq\textnhateq  
 20998 \let\triangleeq\texttriangleeq  
 20999 \let\neq\textneq  
 21000 \let\ne\textne  
 21001 \let\equiv\textequiv  
 21002 \let\equiv\textequiv  
 21003 \let\leq\textleq  
 21004 \let\le\textle  
 21005 \let\geq\textgeq  
 21006 \let\ge\textge  
 21007 \let\leqq\textleqq  
 21008 \let\mleqq\textmleqq  
 21009 \let\geqq\textgeqq  
 21010 \let\ngeqq\textngeqq  
 21011 \let\lneqq\textlneqq  
 21012 \let\gneqq\textgneqq  
 21013 \let\ll\textll  
 21014 \let\ll\textll  
 21015 \let\gg\textgg

21016  $\backslash\mathrm{ngg}\backslash\mathrm{textngg}$   
 21017  $\backslash\mathrm{let}\backslash\mathrm{between}\backslash\mathrm{textbetween}$   
 21018  $\backslash\mathrm{let}\backslash\mathrm{nless}\backslash\mathrm{textnless}$   
 21019  $\backslash\mathrm{let}\backslash\mathrm{ngtr}\backslash\mathrm{textngtr}$   
 21020  $\backslash\mathrm{let}\backslash\mathrm{nleq}\backslash\mathrm{textnleq}$   
 21021  $\backslash\mathrm{let}\backslash\mathrm{ngeq}\backslash\mathrm{textngeq}$   
 21022  $\backslash\mathrm{let}\backslash\mathrm{lesssim}\backslash\mathrm{textlessim}$   
 21023  $\backslash\mathrm{let}\backslash\mathrm{gtrsim}\backslash\mathrm{textgtrsim}$   
 21024  $\backslash\mathrm{let}\backslash\mathrm{nlesssim}\backslash\mathrm{textnlessim}$   
 21025  $\backslash\mathrm{let}\backslash\mathrm{ngtrsim}\backslash\mathrm{textngtrsim}$   
 21026  $\backslash\mathrm{let}\backslash\mathrm{lessgtr}\backslash\mathrm{textlessgtr}$   
 21027  $\backslash\mathrm{let}\backslash\mathrm{gtrless}\backslash\mathrm{textgtrless}$   
 21028  $\backslash\mathrm{let}\backslash\mathrm{ngtrless}\backslash\mathrm{textngtrless}$   
 21029  $\backslash\mathrm{let}\backslash\mathrm{nlessgtr}\backslash\mathrm{textnlessgtr}$   
 21030  $\backslash\mathrm{let}\backslash\mathrm{prec}\backslash\mathrm{textprec}$   
 21031  $\backslash\mathrm{let}\backslash\mathrm{succ}\backslash\mathrm{textsucc}$   
 21032  $\backslash\mathrm{let}\backslash\mathrm{preccurlyeq}\backslash\mathrm{textpreccurlyeq}$   
 21033  $\backslash\mathrm{let}\backslash\mathrm{succcurlyeq}\backslash\mathrm{textsucccurlyeq}$   
 21034  $\backslash\mathrm{let}\backslash\mathrm{precsim}\backslash\mathrm{textprecsim}$   
 21035  $\backslash\mathrm{let}\backslash\mathrm{nprecsim}\backslash\mathrm{textnprecsim}$   
 21036  $\backslash\mathrm{let}\backslash\mathrm{succsim}\backslash\mathrm{textsuccsim}$   
 21037  $\backslash\mathrm{let}\backslash\mathrm{nsuccsim}\backslash\mathrm{textnsuccsim}$   
 21038  $\backslash\mathrm{let}\backslash\mathrm{nprec}\backslash\mathrm{textnprec}$   
 21039  $\backslash\mathrm{let}\backslash\mathrm{nsucc}\backslash\mathrm{textnsucc}$   
 21040  $\backslash\mathrm{let}\backslash\mathrm{subset}\backslash\mathrm{textsubset}$   
 21041  $\backslash\mathrm{let}\backslash\mathrm{supset}\backslash\mathrm{textsupset}$   
 21042  $\backslash\mathrm{let}\backslash\mathrm{nssubset}\backslash\mathrm{textnssubset}$   
 21043  $\backslash\mathrm{let}\backslash\mathrm{nsupset}\backslash\mathrm{textnsupset}$   
 21044  $\backslash\mathrm{let}\backslash\mathrm{subseteq}\backslash\mathrm{textsubseteq}$   
 21045  $\backslash\mathrm{let}\backslash\mathrm{supseteq}\backslash\mathrm{textsupseteq}$   
 21046  $\backslash\mathrm{let}\backslash\mathrm{nsubseteq}\backslash\mathrm{textnsubseteq}$   
 21047  $\backslash\mathrm{let}\backslash\mathrm{nsupseteq}\backslash\mathrm{textnsupseteq}$   
 21048  $\backslash\mathrm{let}\backslash\mathrm{subsetneq}\backslash\mathrm{textsubsetneq}$   
 21049  $\backslash\mathrm{let}\backslash\mathrm{supsetneq}\backslash\mathrm{textsupsetneq}$   
 21050  $\backslash\mathrm{let}\backslash\mathrm{cupdot}\backslash\mathrm{textcupdot}$   
 21051  $\backslash\mathrm{let}\backslash\mathrm{cupplus}\backslash\mathrm{textcupplus}$   
 21052  $\backslash\mathrm{let}\backslash\mathrm{sqsubset}\backslash\mathrm{textsqssubset}$   
 21053  $\backslash\mathrm{let}\backslash\mathrm{nsqsubset}\backslash\mathrm{textnsqsubset}$   
 21054  $\backslash\mathrm{let}\backslash\mathrm{sqsupset}\backslash\mathrm{textsqsupset}$   
 21055  $\backslash\mathrm{let}\backslash\mathrm{nsqsupset}\backslash\mathrm{textnsqsupset}$   
 21056  $\backslash\mathrm{let}\backslash\mathrm{sqsubseq}\backslash\mathrm{textsqssubseq}$   
 21057  $\backslash\mathrm{let}\backslash\mathrm{nsqsubseq}\backslash\mathrm{textnsqsubseq}$   
 21058  $\backslash\mathrm{let}\backslash\mathrm{sqsupseteq}\backslash\mathrm{textsqsupseteq}$   
 21059  $\backslash\mathrm{let}\backslash\mathrm{nsqsupseteq}\backslash\mathrm{textnsqsupseteq}$   
 21060  $\backslash\mathrm{let}\backslash\mathrm{sqcap}\backslash\mathrm{textsqqcap}$   
 21061  $\backslash\mathrm{let}\backslash\mathrm{sqcup}\backslash\mathrm{textsqqcup}$   
 21062  $\backslash\mathrm{let}\backslash\mathrm{oplus}\backslash\mathrm{textoplus}$   
 21063  $\backslash\mathrm{let}\backslash\mathrm{ominus}\backslash\mathrm{textominus}$   
 21064  $\backslash\mathrm{let}\backslash\mathrm{otimes}\backslash\mathrm{textotimes}$   
 21065  $\backslash\mathrm{let}\backslash\mathrm{oslash}\backslash\mathrm{textoslash}$

21066 \let\odot\textodot  
 21067 \let\circledcirc\textcircledcirc  
 21068 \let\circledast\textcircledast  
 21069 \let\circleddash\textcircleddash  
 21070 \let\boxplus\textboxplus  
 21071 \let\boxminus\textboxminus  
 21072 \let\boxtimes\textboxtimes  
 21073 \let\boxdot\textboxdot  
 21074 \let\vdash\textvdash  
 21075 \let\dashv\textdashv  
 21076 \let\ndashv\textndashv  
 21077 \let\top\texttop  
 21078 \let\ndownvdash\textndownvdash  
 21079 \let\bot\textbot  
 21080 \let\nupvdash\textnupvdash  
 21081 \let\vDash\textvDash  
 21082 \let\Vdash\textVdash  
 21083 \let\Vvdash\textVvdash  
 21084 \let\NVdash\textNVdash  
 21085 \let\VDash\textVDash  
 21086 \let\NVdash\textNVdash  
 21087 \let\NVDash\textNVDash  
 21088 \let\NVdash\textNVdash  
 21089 \let\NVDash\textNVDash  
 21090 \let\lhd\textlhd  
 21091 \let\rhd\textrhd  
 21092 \let\unlhd\textunlhd  
 21093 \let\unrhd\textunrhd  
 21094 \let\multimapdotbothA\textmultimapdotbothA  
 21095 \let\multimapdotbothB\textmultimapdotbothB  
 21096 \let\multimap\textmultimap  
 21097 \let\veebar\textveebar  
 21098 \let\barwedge\textbarwedge  
 21099 \let\star\textstar  
 21100 \let\divideontimes\textdivideontimes  
 21101 \let\bowtie\textbowtie  
 21102 \let\ltimes\textltimes  
 21103 \let\rtimes\textrtimes  
 21104 \let\leftthreetimes\textleftthreetimes  
 21105 \let\rightthreetimes\textrightthreetimes  
 21106 \let\backsimeq\textbacksimeq  
 21107 \let\Nbacksimeq\textNbacksimeq  
 21108 \let\curlyvee\textcurlyvee  
 21109 \let\curlywedge\textcurlywedge  
 21110 \let\Subset\textSubset  
 21111 \let\NSubset\textNSubset  
 21112 \let\Supset\textSupset  
 21113 \let\NSupset\textNSupset  
 21114 \let\Cap\textCap  
 21115 \let\Cup\textCup

21116 `\let\pitchfork\textpitchfork`  
 21117 `\let\lessdot\textlessdot`  
 21118 `\let\gtrdot\textgtrdot`  
 21119 `\let\lll\textlll`  
 21120 `\let\ggg\textggg`  
 21121 `\let\lesseqgtr\textlesseqgtr`  
 21122 `\let\gtreqless\textgtreqless`  
 21123 `\let\curlyeqprec\textcurlyeqprec`  
 21124 `\let\ncurlyeqprec\textncurlyeqprec`  
 21125 `\let\curlyeqsucc\textcurlyeqsucc`  
 21126 `\let\ncurlyeqsucc\textncurlyeqsucc`  
 21127 `\let\preccurlyeq\textnpreccurlyeq`  
 21128 `\let\nsucccurlyeq\textnsucccurlyeq`  
 21129 `\let\qsubseteq\textnqsubseteq`  
 21130 `\let\qsupseteq\textnqsupseteq`  
 21131 `\let\sqsubsetneq\textsqsubsetneq`  
 21132 `\let\sqsupsetneq\textsqsupsetneq`  
 21133 `\let\lnsim\textlnsim`  
 21134 `\let\gnsim\textgnsim`  
 21135 `\let\precnsim\textprecnsim`  
 21136 `\let\succnsim\textsuccnsim`  
 21137 `\let\ntriangleright\textntriangleright`  
 21138 `\let\ntriangleright\textntriangleright`  
 21139 `\let\ntrianglerighteq\textntrianglerighteq`  
 21140 `\let\ntrianglerighteq\textntrianglerighteq`  
 21141 `\let\vdots\textvdots`  
 21142 `\let\cdots\textcdots`  
 21143 `\let\udots\textudots`  
 21144 `\let\ddots\textddots`  
 21145 `\let\barin\textbarin`  
 21146 `\let\diameter\textdiameter`  
 21147 `\let\backneg\textbackneg`  
 21148 `\let\wasylounge\textwasylounge`  
 21149 `\let\invbackneg\textinvbackneg`  
 21150 `\let\clock\textclock`  
 21151 `\let\ulcorner\textulcorner`  
 21152 `\let\urcorner\texturcorner`  
 21153 `\let\llcorner\textllcorner`  
 21154 `\let\lrcorner\textlrcorner`  
 21155 `\let\frown\textfrown`  
 21156 `\let\smile\textsmile`  
 21157 `\let\Keyboard\textKeyboard`  
 21158 `\let\langle\textlangle`  
 21159 `\let\rangle\textrangle`  
 21160 `\let\APLinv\textAPLinv`  
 21161 `\let\Tumbler\textTumbler`  
 21162 `\let\notslash\textnotslash`  
 21163 `\let\notbackslash\textnotbackslash`  
 21164 `\let\boxbackslash\textboxbackslash`  
 21165 `\let\APLleftarrowbox\textAPLleftarrowbox`

21166 \let\APLrightarrowbox\textAPLrightarrowbox  
 21167 \let\APLuparrowbox\textAPLuparrowbox  
 21168 \let\APLdownarrowbox\textAPLdownarrowbox  
 21169 \let\APLinput\textAPLinput  
 21170 \let\Request\textRequest  
 21171 \let\Beam\textBeam  
 21172 \let\hexagon\texthexagon  
 21173 \let\APLbox\textAPLbox  
 21174 \let\ForwardToIndex\textForwardToIndex  
 21175 \let\RewindToIndex\textRewindToIndex  
 21176 \let\bbslash\textbbslash  
 21177 \let\CircledA\textCircledA  
 21178 \let\CleaningF\textCleaningF  
 21179 \let\CleaningFF\textCleaningFF  
 21180 \let\CleaningP\textCleaningP  
 21181 \let\CleaningPP\textCleaningPP  
 21182 \let\CuttingLine\textCuttingLine  
 21183 \let\UParrow\textUParrow  
 21184 \let\bigtriangleup\textbigtriangleup  
 21185 \let\Forward\textForward  
 21186 \let\triangleright\texttriangleright  
 21187 \let\RHD\textRHD  
 21188 \let\DOWNarrow\textDOWNarrow  
 21189 \let\bigtriangledown\textbigtriangledown  
 21190 \let\Rewind\textRewind  
 21191 \let\triangleleft\texttriangleleft  
 21192 \let\LHD\textLHD  
 21193 \let\diamond\textdiamond  
 21194 \let\lozenge\textlozenge  
 21195 \let\LEFTCIRCLE\textLEFTCIRCLE  
 21196 \let\RIGHTCIRCLE\textRIGHTCIRCLE  
 21197 \let\openbullet\textopenbullet  
 21198 \let\boxbar\textboxbar  
 21199 \let\bigcircle\textbigcircle  
 21200 \let\Cloud\textCloud  
 21201 \let\FiveStar\textFiveStar  
 21202 \let\FiveStarOpen\textFiveStarOpen  
 21203 \let\Phone\textPhone  
 21204 \let\boxempty\textboxempty  
 21205 \let\Checkedbox\textCheckedbox  
 21206 \let\Crossedbox\textCrossedbox  
 21207 \let\Coffeecup\textCoffeecup  
 21208 \let\HandCuffLeft\textHandCuffLeft  
 21209 \let\HandCuffRight\textHandCuffRight  
 21210 \let\HandLeft\textHandLeft  
 21211 \let\HandRight\textHandRight  
 21212 \let\Radioactivity\textRadioactivity  
 21213 \let\Biohazard\textBiohazard  
 21214 \let\Ankh\textAnkh  
 21215 \let\YinYang\textYinYang

21216 \let\frownie\textfrownie  
 21217 \let\smiley\textsmiley  
 21218 \let\blacksmiley\textblacksmiley  
 21219 \let\sun\textsun  
 21220 \let\leftmoon\textleftmoon  
 21221 \let\rightmoon\textrightmoon  
 21222 \let\mercury\textmercury  
 21223 \let\earth\textearth  
 21224 \let\male\textmale  
 21225 \let\jupiter\textjupiter  
 21226 \let\saturn\textsaturn  
 21227 \let\uranus\texturanus  
 21228 \let\neptune\textneptune  
 21229 \let\pluto\textpluto  
 21230 \let\aries\textaries  
 21231 \let\taurus\texttaurus  
 21232 \let\gemini\textgemini  
 21233 \let\cancer\textcancer  
 21234 \let\leo\textleo  
 21235 \let\virgo\textvirgo  
 21236 \let\libra\textlibra  
 21237 \let\scorpio\textscorpio  
 21238 \let\sagittarius\textsagittarius  
 21239 \let\capricornus\textcapricornus  
 21240 \let\aquarius\textaquarius  
 21241 \let\pisces\textpisces  
 21242 \let\quarternote\textquarternote  
 21243 \let\twonotes\texttwonotes  
 21244 \let\sixteenthnote\textsixteenthnote  
 21245 \let\flat\textflat  
 21246 \let\natural\textnatural  
 21247 \let\sharp\textsharp  
 21248 \let\recycle\textrecycle  
 21249 \let\Wheelchair\textWheelchair  
 21250 \let\Flag\textFlag  
 21251 \let\MineSign\textMineSign  
 21252 \let\ds military\textds military  
 21253 \let\ds medical\textds medical  
 21254 \let\ds juridical\textds juridical  
 21255 \let\ds chemical\textds chemical  
 21256 \let\ds biological\textds biological  
 21257 \let\ds commercial\textds commercial  
 21258 \let\manstar\textmanstar  
 21259 \let\danger\textdanger  
 21260 \let\FemaleFemale\textFemaleFemale  
 21261 \let\MaleMale\textMaleMale  
 21262 \let\FemaleMale\textFemaleMale  
 21263 \let\Hermaphrodite\textHermaphrodite  
 21264 \let\Neutral\textNeutral  
 21265 \let\hexstar\texthexstar

21266 \let\SunCloud\textSunCloud  
 21267 \let\Rain\textRain  
 21268 \let\noway\textnoway  
 21269 \let\Mountain\textMountain  
 21270 \let\Tent\textTent  
 21271 \let\ScissorRight\textScissorRight  
 21272 \let\ScissorRightBrokenTop\textScissorRightBrokenTop  
 21273 \let\ScissorHollowRight\textScissorHollowRight  
 21274 \let\PhoneHandset\textPhoneHandset  
 21275 \let\Tape\textTape  
 21276 \let\Plane\textPlane  
 21277 \let\Envelope\textEnvelope  
 21278 \let\Peace\textPeace  
 21279 \let\WritingHand\textWritingHand  
 21280 \let\PencilRightDown\textPencilRightDown  
 21281 \let\PencilRight\textPencilRight  
 21282 \let\PencilRightUp\textPencilRightUp  
 21283 \let\NibRight\textNibRight  
 21284 \let\NibSolidRight\textNibSolidRight  
 21285 \let\Checkmark\textCheckmark  
 21286 \let\CheckmarkBold\textCheckmarkBold  
 21287 \let\XSolid\textXSolid  
 21288 \let\XSolidBold\textXSolidBold  
 21289 \let\XSolidBrush\textXSolidBrush  
 21290 \let\PlusOutline\textPlusOutline  
 21291 \let\Plus\textPlus  
 21292 \let\PlusThinCenterOpen\textPlusThinCenterOpen  
 21293 \let\PlusCenterOpen\textPlusCenterOpen  
 21294 \let\Cross\textCross  
 21295 \let\CrossOpenShadow\textCrossOpenShadow  
 21296 \let\CrossOutline\textCrossOutline  
 21297 \let\CrossMaltese\textCrossMaltese  
 21298 \let\DavidStar\textDavidStar  
 21299 \let\FourAsterisk\textFourAsterisk  
 21300 \let\JackStar\textJackStar  
 21301 \let\JackStarBold\textJackStarBold  
 21302 \let\ClowerTips\textClowerTips  
 21303 \let\FourStar\textFourStar  
 21304 \let\FourStarOpen\textFourStarOpen  
 21305 \let\FiveStarOpenCircled\textFiveStarOpenCircled  
 21306 \let\FiveStarCenterOpen\textFiveStarCenterOpen  
 21307 \let\FiveStarOpenDotted\textFiveStarOpenDotted  
 21308 \let\FiveStarOutline\textFiveStarOutline  
 21309 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy  
 21310 \let\FiveStarConvex\textFiveStarConvex  
 21311 \let\FiveStarShadow\textFiveStarShadow  
 21312 \let\AsteriskBold\textAsteriskBold  
 21313 \let\AsteriskCenterOpen\textAsteriskCenterOpen  
 21314 \let\EightStarTaper\textEightStarTaper  
 21315 \let\EightStarConvex\textEightStarConvex

21316 \let\SixStar\textSixStar  
 21317 \let\EightStar\textEightStar  
 21318 \let\EightStarBold\textEightStarBold  
 21319 \let\TwelveStar\textTwelveStar  
 21320 \let\SixteenStarLight\textSixteenStarLight  
 21321 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved  
 21322 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter  
 21323 \let\Asterisk\textAsterisk  
 21324 \let\SixFlowerAlternate\textSixFlowerAlternate  
 21325 \let\FiveFlowerPetal\textFiveFlowerPetal  
 21326 \let\FiveFlowerOpen\textFiveFlowerOpen  
 21327 \let\EightFlowerPetal\textEightFlowerPetal  
 21328 \let\SunshineOpenCircled\textSunshineOpenCircled  
 21329 \let\SixFlowerAltPetal\textSixFlowerAltPetal  
 21330 \let\SnowflakeChevron\textSnowflakeChevron  
 21331 \let\Snowflake\textSnowflake  
 21332 \let\SnowflakeChevronBold\textSnowflakeChevronBold  
 21333 \let\Sparkle\textSparkle  
 21334 \let\SparkleBold\textSparkleBold  
 21335 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds  
 21336 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved  
 21337 \let\EightAsterisk\textEightAsterisk  
 21338 \let\CircleShadow\textCircleShadow  
 21339 \let\SquareShadowBottomRight\textSquareShadowBottomRight  
 21340 \let\SquareTopRight\textSquareTopRight  
 21341 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight  
 21342 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight  
 21343 \let\DiamondSolid\textDiamondSolid  
 21344 \let\RectangleThin\textRectangleThin  
 21345 \let\Rectangle\textRectangle  
 21346 \let\RectangleBold\textRectangleBold  
 21347 \let\perp\textperp  
 21348 \let\notperp\textnotperp  
 21349 \let\veedot\textveedot  
 21350 \let\wedgedot\textwedgedot  
 21351 \let\leftspoon\textleftspoon  
 21352 \let\lbrackdbl\textlbrackdbl  
 21353 \let\rbrackdbl\textrbrackdbl  
 21354 \let\circlearrowleft\textcirclearrowleft  
 21355 \let\circlearrowright\textcirclearrowright  
 21356 \let\longleftarrow\textlongleftarrow  
 21357 \let\longrightarrow\textlongrightarrow  
 21358 \let\longleftrightarrow\textlongleftrightarrow  
 21359 \let\Longleftarrow\textLongleftarrow  
 21360 \let\Longrightarrow\textLongrightarrow  
 21361 \let\Longleftrightarrow\textLongleftrightarrow  
 21362 \let\longmapsto\textlongmapsto  
 21363 \let\Longmapsfrom\textLongmapsfrom  
 21364 \let\Longmapsto\textLongmapsto  
 21365 \let\nwsearrow\textnwsearrow



21366 \let\neswarrow\textneswarrow  
 21367 \let\lhooknarrow\textlhooknarrow  
 21368 \let\rhooknearrow\extrhooknearrow  
 21369 \let\lhooksearrow\textlhooksearrow  
 21370 \let\rhookswarrow\extrhookswarrow  
 21371 \let\leadsto\textleadsto  
 21372 \let\rcurvearrowne\extrcurvearrowne  
 21373 \let\lcurvearrowse\textlcurvearrowse  
 21374 \let\lcurvearrowsw\textlcurvearrowsw  
 21375 \let\rcurvearrowse\extrcurvearrowse  
 21376 \let\lcurvearrowdown\textlcurvearrowdown  
 21377 \let\rcurvearrowdown\extrcurvearrowdown  
 21378 \let\rcurvearrowleft\extrcurvearrowleft  
 21379 \let\rcurvearrowright\extrcurvearrowright  
 21380 \let\leftrightharpoon\textleftrightharpoon  
 21381 \let\rightrightharpoon\extrightrightharpoon  
 21382 \let\updownharpoonleftright\textupdownharpoonleftright  
 21383 \let\updownharpoonleftright\textupdownharpoonleftright  
 21384 \let\leftleftharpoons\textleftleftharpoons  
 21385 \let\upupharpoons\textupupharpoons  
 21386 \let\rightrightharpoons\extrightrightharpoons  
 21387 \let\downdownharpoons\textdowndownharpoons  
 21388 \let\leftbarharpoon\textleftbarharpoon  
 21389 \let\rightbarharpoon\extrightbarharpoon  
 21390 \let\barleftharpoon\textbarleftharpoon  
 21391 \let\barrightharpoon\textbarrightharpoon  
 21392 \let\updownharpoons\textupdownharpoons  
 21393 \let\downupharpoons\textdownupharpoons  
 21394 \let\moo\textmoo  
 21395 \let\llparenthesis\textllparenthesis  
 21396 \let\rrparenthesis\extrrparenthesis  
 21397 \let\invdiameter\textinvdiameter  
 21398 \let\obar\textobar  
 21399 \let\obslash\textobslash  
 21400 \let\obot\textobot  
 21401 \let\NoChemicalCleaning\textNoChemicalCleaning  
 21402 \let\olessthan\textolessthan  
 21403 \let\ogreaterthan\textogreaterthan  
 21404 \let\boxslash\textboxslash  
 21405 \let\boxbslash\textboxbslash  
 21406 \let\boxast\textboxast  
 21407 \let\boxcircle\textboxcircle  
 21408 \let\boxbox\textboxbox  
 21409 \let\Valve\textValve  
 21410 \let\multimapboth\textmultimapboth  
 21411 \let\shuffle\textshuffle  
 21412 \let\uplus\textuplus  
 21413 \let\bigdoublewedge\textbigdoublewedge  
 21414 \let\bigdoublevee\textbigdoublevee  
 21415 \let\Join\textJoin

21416  $\backslash\text{let}\backslash\text{fatsemi}\backslash\text{textfatsemi}$   
 21417  $\backslash\text{let}\backslash\text{circplus}\backslash\text{textcircplus}$   
 21418  $\backslash\text{let}\backslash\text{minusdot}\backslash\text{textminusdot}$   
 21419  $\backslash\text{let}\backslash\text{dottimes}\backslash\text{textdottimes}$   
 21420  $\backslash\text{let}\backslash\text{dtimes}\backslash\text{texdtimes}$   
 21421  $\backslash\text{let}\backslash\text{odiv}\backslash\text{textodiv}$   
 21422  $\backslash\text{let}\backslash\text{invneg}\backslash\text{textinvneg}$   
 21423  $\backslash\text{let}\backslash\text{sqdoublecap}\backslash\text{textsquaddoublecap}$   
 21424  $\backslash\text{let}\backslash\text{capdot}\backslash\text{textcapdot}$   
 21425  $\backslash\text{let}\backslash\text{sqdoublecup}\backslash\text{textsquaddoublecup}$   
 21426  $\backslash\text{let}\backslash\text{doublewedge}\backslash\text{textdoublewedge}$   
 21427  $\backslash\text{let}\backslash\text{doublevee}\backslash\text{textdoublevee}$   
 21428  $\backslash\text{let}\backslash\text{doublebarwedge}\backslash\text{textdoublebarwedge}$   
 21429  $\backslash\text{let}\backslash\text{veedoublebar}\backslash\text{textveedoublebar}$   
 21430  $\backslash\text{let}\backslash\text{eqdot}\backslash\text{texreqdot}$   
 21431  $\backslash\text{let}\backslash\text{neqdot}\backslash\text{texneqdot}$   
 21432  $\backslash\text{let}\backslash\text{coloncolonequals}\backslash\text{textcoloncolonequals}$   
 21433  $\backslash\text{let}\backslash\text{leqslant}\backslash\text{textleqslant}$   
 21434  $\backslash\text{let}\backslash\text{nleqslant}\backslash\text{texnleqslant}$   
 21435  $\backslash\text{let}\backslash\text{geqslant}\backslash\text{textgeqslant}$   
 21436  $\backslash\text{let}\backslash\text{ngeqslant}\backslash\text{texngeqslant}$   
 21437  $\backslash\text{let}\backslash\text{lessapprox}\backslash\text{textlessapprox}$   
 21438  $\backslash\text{let}\backslash\text{nlessapprox}\backslash\text{texnlessapprox}$   
 21439  $\backslash\text{let}\backslash\text{gtrapprox}\backslash\text{textgtrapprox}$   
 21440  $\backslash\text{let}\backslash\text{ngtrapprox}\backslash\text{texngtrapprox}$   
 21441  $\backslash\text{let}\backslash\text{lneq}\backslash\text{textlneq}$   
 21442  $\backslash\text{let}\backslash\text{gneq}\backslash\text{textgneq}$   
 21443  $\backslash\text{let}\backslash\text{lnapprox}\backslash\text{textlnapprox}$   
 21444  $\backslash\text{let}\backslash\text{gnapprox}\backslash\text{textgnapprox}$   
 21445  $\backslash\text{let}\backslash\text{lesseqgtr}\backslash\text{textlesseqgtr}$   
 21446  $\backslash\text{let}\backslash\text{gtreqqlless}\backslash\text{textgtreqqlless}$   
 21447  $\backslash\text{let}\backslash\text{eqslantless}\backslash\text{texeqslantless}$   
 21448  $\backslash\text{let}\backslash\text{eqslantgtr}\backslash\text{texeqslantgtr}$   
 21449  $\backslash\text{let}\backslash\text{leftslice}\backslash\text{textleftslice}$   
 21450  $\backslash\text{let}\backslash\text{rightslice}\backslash\text{textrightslice}$   
 21451  $\backslash\text{let}\backslash\text{preceq}\backslash\text{textpreceq}$   
 21452  $\backslash\text{let}\backslash\text{npreceq}\backslash\text{texnpreceq}$   
 21453  $\backslash\text{let}\backslash\text{succeq}\backslash\text{textsucceq}$   
 21454  $\backslash\text{let}\backslash\text{nsucceq}\backslash\text{texnsucceq}$   
 21455  $\backslash\text{let}\backslash\text{precneq}\backslash\text{textprecneq}$   
 21456  $\backslash\text{let}\backslash\text{succneq}\backslash\text{textsuccneq}$   
 21457  $\backslash\text{let}\backslash\text{preceqq}\backslash\text{textpreceqq}$   
 21458  $\backslash\text{let}\backslash\text{npreceqq}\backslash\text{texnpreceqq}$   
 21459  $\backslash\text{let}\backslash\text{succeqq}\backslash\text{textsucceqq}$   
 21460  $\backslash\text{let}\backslash\text{nsucceqq}\backslash\text{texnsucceqq}$   
 21461  $\backslash\text{let}\backslash\text{precneqq}\backslash\text{textprecneqq}$   
 21462  $\backslash\text{let}\backslash\text{succneqq}\backslash\text{textsuccneqq}$   
 21463  $\backslash\text{let}\backslash\text{precapprox}\backslash\text{textprecapprox}$   
 21464  $\backslash\text{let}\backslash\text{nprecapprox}\backslash\text{texnprecapprox}$   
 21465  $\backslash\text{let}\backslash\text{succapprox}\backslash\text{textsuccapprox}$

21466 \let\nsuccapprox\textnsuccapprox  
 21467 \let\precnapprox\textprecnapprox  
 21468 \let\succnapprox\textsuccnapprox  
 21469 \let\subseteqq\textsubseteqq  
 21470 \let\nsubseteqq\textnsubseteqq  
 21471 \let\supseteqq\textsupseteqq  
 21472 \let\nsupseteqq\textnsupseteqq  
 21473 \let\dashV\textdashV  
 21474 \let\ndashV\textndashV  
 21475 \let\Dashv\textDashv  
 21476 \let\ndashv\textndashv  
 21477 \let\DashV\textDashV  
 21478 \let\ndashV\textndashV  
 21479 \let\downmodels\textdownmodels  
 21480 \let\ndownmodels\textndownmodels  
 21481 \let\upmodels\textupmodels  
 21482 \let\upmodels\textupmodels  
 21483 \let\upspoon\textupspoon  
 21484 \let\interleave\textinterleave  
 21485 \let\slash\textslash  
 21486 \let\pentagon\textpentagon  
 21487 \let\varhexagon\textvarhexagon  
 21488 \let\jinferior\textjinferior  
 21489 \let\slashdiv\textslashdiv  
 21490 \let\fivedots\textfivedots  
 21491 \let\oo\textoo  
 21492 \let\GaPa\textGaPa  
 21493 \let\HaPa\textHaPa  
 21494 \let\ViPa\textViPa  
 21495 \let\AcPa\textAcPa  
 21496 \let\SePa\textSePa  
 21497 \let\ZwPa\textZwPa  
 21498 \let\fullnote\textfullnote  
 21499 \let\halfnote\texthalfnote  
 21500 \let\Vier\textVier  
 21501 \let\Acht\textAcht  
 21502 \let\Sech\textSech  
 21503 \let\Zwdr\textZwdr  
 21504 \let\Mundus\textMundus  
 21505 \let\Moon\textMoon  
 21506 \let\ManFace\textManFace  
 21507 \let\WomanFace\textWomanFace  
 21508 \let\Fax\textFax  
 21509 \let\Fire\textFire  
 21510 \let\Bicycle\textBicycle  
 21511 \let\Gentsroom\textGentsroom  
 21512 \let\Ladiesroom\textLadiesroom  
 21513 \let\ccnc\textccnc  
 21514 \let\ccsa\textccsa  
 21515 \let\Info\textInfo

21516 \let\CESign\textCESign  
 21517 \let\neg\textneg  
 21518 \let\times\texttimes  
 21519 \let\div\textdiv  
 21520 \let\pm\textpm  
 21521 \let\cdot\textcdot  
 21522 }% \psdmapshortnames  
 21523 \newcommand\*{\psdaliasnames}{%  
 21524 \let\epsdice\HyPsd@DieFace  
 21525 \let\fcdice\HyPsd@DieFace  
 21526 \let\MoonPha\HyPsd@MoonPha  
 21527 \let\mathdollar\textdollar  
 21528 \let\EyesDollar\textdollar  
 21529 \let\binampersand\textampersand  
 21530 \let\with\textampersand  
 21531 \let\mathunderscore\textunderscore  
 21532 \let\textvertline\textbar  
 21533 \let\mathsterling\textsterling  
 21534 \let\pounds\textsterling  
 21535 \let\brokenvert\textbrokenbar  
 21536 \let\mathsection\textsection  
 21537 \let\S\textsection  
 21538 \let\mathparagraph\textparagraph  
 21539 \let\MultiplicationDot\textperiodcentered  
 21540 \let\Squaredot\textperiodcentered  
 21541 \let\vartimes\textmultiply  
 21542 \let\MVMMultiplication\textmultiply  
 21543 \let\eth\dh  
 21544 \let\crossd\textcrd  
 21545 \let\textbard\textcrd  
 21546 \let\bard\textcrd  
 21547 \let\textcrh\texthbar  
 21548 \let\crossh\texthbar  
 21549 \let\planck\texthbar  
 21550 \let\eng\ng  
 21551 \let\engma\ng  
 21552 \let\crossb\textcrb  
 21553 \let\textbarb\textcrb  
 21554 \let\barb\textcrb  
 21555 \let\Florin\textflorin  
 21556 \let\hv\texthvl  
 21557 \let\hausak\textthk  
 21558 \let\crossnilambda\textcrlambda  
 21559 \let\barlambda\textcrlambda  
 21560 \let\lambdabar\textcrlambda  
 21561 \let\lambdaslash\textcrlambda  
 21562 \let\textnrleg\textPUnrleg  
 21563 \let\textpipevar\textpipe  
 21564 \let\textdoublepipevar\textdoublepipe  
 21565 \let\textdoublebarpipevar\textdoublebarpipe

21566 \let\textcrg\textgslash  
 21567 \let\textdblig\textPUdblig  
 21568 \let\textqplig\textPUqplig  
 21569 \let\textcentoldstyle\textslashc  
 21570 \let\textbarc\textslashc  
 21571 \let\inva\textturna  
 21572 \let\vara\textscripta  
 21573 \let\invscripta\textturnscripta  
 21574 \let\rotvara\textturnscripta  
 21575 \let\hookb\texthtb  
 21576 \let\hausab\texthtb  
 21577 \let\varopeno\textopeno  
 21578 \let\curlyc\textctc  
 21579 \let\taild\textrtaild  
 21580 \let\hookd\texthtd  
 21581 \let\hausad\texthtd  
 21582 \let\er\textrhooschwa  
 21583 \let\epsi\textniepsilon  
 21584 \let\hookrepsilon\textrhoorepsilon  
 21585 \let\closedrepsilon\textcloserepsilon  
 21586 \let\barj\textbardotlessj  
 21587 \let\hookg\texthtg  
 21588 \let\varg\textscriptg  
 21589 \let\vod\textipagamma  
 21590 \let\invh\textturnh  
 21591 \let\udesc\textturnh  
 21592 \let\hookh\texthth  
 21593 \let\voicedh\texthth  
 21594 \let\hookheng\texththeng  
 21595 \let\ibar\textbari  
 21596 \let\vari\textniiota  
 21597 \let\tildel\textltilde  
 21598 \let\latfric\textbeltl  
 21599 \let\taill\textrtail  
 21600 \let\lz\textlyoghlig  
 21601 \let\invm\textturnm  
 21602 \let\rotm\textturnm  
 21603 \let\legm\textturnmrleg  
 21604 \let\labdentals\textltailm  
 21605 \let\emgma\textltailm  
 21606 \let\nj\textltailn  
 21607 \let\enya\textltailn  
 21608 \let\tailn\textrtailn  
 21609 \let\closedniomega\textcloseomega  
 21610 \let\varomega\textcloseomega  
 21611 \let\invr\textturnr  
 21612 \let\rotr\textturnr  
 21613 \let\invlegr\textturnlonglegr  
 21614 \let\tailinvr\textturnrrtail  
 21615 \let\legr\textlonglegr

21616 \let\tailr\textrtailr  
 21617 \let\flapr\textfishhookr  
 21618 \let\flap\textfishhookr  
 21619 \let\tails\textrtails  
 21620 \let\curlyesh\textctesh  
 21621 \let\clickt\textturnt  
 21622 \let\tailt\textrtailt  
 21623 \let\ubar\textbaru  
 21624 \let\rotOmega\textniupsilon  
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 21626 \let\pwedge\textturnv  
 21627 \let\invw\textturnw  
 21628 \let\rotw\textturnw  
 21629 \let\invy\textturny  
 21630 \let\roty\textturny  
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 21632 \let\curlyz\textctz  
 21633 \let\curlyyogh\textctyogh  
 21634 \let\ejective\textglotstop  
 21635 \let\glottal\textglotstop  
 21636 \let\reveject\textrevglotstop  
 21637 \let\clickc\textstretchc  
 21638 \let\textstretchcvar\textstretchc  
 21639 \let\clickb\textbullseye  
 21640 \let\textObullseye\textbullseye  
 21641 \let\textctjvar\textctj  
 21642 \let\textturnsck\textturnk  
 21643 \let\dz\textdzlig  
 21644 \let\tesh\textteshlig  
 21645 \let\digamma\textdigammagreek  
 21646 \let\hardsign\cyrhrdsn  
 21647 \let\softsign\cyrsoftsn  
 21648 \let\hebsin\hebshin  
 21649 \let\textsck\textPUscck  
 21650 \let\textscm\textPUscm  
 21651 \let\textscp\textPUscp  
 21652 \let\textrevscr\textPUrevscr  
 21653 \let\textrhooca\textPURhooka  
 21654 \let\textrhooke\textPURhooke  
 21655 \let\textrhookepsilon\textPURhookepsilon  
 21656 \let\textrhoookopeno\textPURhookopeno  
 21657 \let\textdoublevertline\textbardbl  
 21658 \let\dag\textdagger  
 21659 \let\ddagger\textdaggerdbl  
 21660 \let\ddag\textdaggerdbl  
 21661 \let\mathellipsis\textellipsis  
 21662 \let\EurDig\texteuro  
 21663 \let\EURdig\texteuro  
 21664 \let\EurHv\texteuro  
 21665 \let\EURhv\texteuro

21666 \let\EurCr\texteuro  
 21667 \let\EURcr\texteuro  
 21668 \let\EurTm\texteuro  
 21669 \let\EURtm\texteuro  
 21670 \let\Eur\texteuro  
 21671 \let\Denarius\textDeleatur  
 21672 \let\agemO\textmho  
 21673 \let\EstimatedSign\textestimated  
 21674 \let\Ecommerce\textestimated  
 21675 \let\bindnasrepma\textinvamp  
 21676 \let\parr\textinvamp  
 21677 \let\MVRightArrow\textrightarrow  
 21678 \let\MVRightarrow\textrightarrow  
 21679 \let\MVArrowDown\textdownarrow  
 21680 \let\Force\textdownarrow  
 21681 \let\textglobrise\textnearrow  
 21682 \let\textglobfall\textsearrow  
 21683 \let\Lightning\textlightning  
 21684 \let\Conclusion\textRightarrow  
 21685 \let\dashedleftarrow\textdashleftarrow  
 21686 \let\dashedrightarrow\textdashrightarrow  
 21687 \let\varnothing\textemptyset  
 21688 \let\owns\textni  
 21689 \let\notni\textnotowner  
 21690 \let\varprop\textpropto  
 21691 \let\varangle\textsphericalangle  
 21692 \let\Anglesign\textsphericalangle  
 21693 \let\AngleSign\textsphericalangle  
 21694 \let\notdivides\textnmid  
 21695 \let\varowedge\textowedge  
 21696 \let\varovee\textovee  
 21697 \let\varint\textint  
 21698 \let\varoint\textoint  
 21699 \let\downtherefore\textbecause  
 21700 \let\textdotdiv\textdotminus  
 21701 \let\AC\textsim  
 21702 \let\wreath\textwr  
 21703 \let\nthickapprox\textnapprox  
 21704 \let\VHF\texttriplesim  
 21705 \let\notasymp\textnasyp  
 21706 \let\Doteq\textdoteqdot  
 21707 \let\corresponds\texthateq  
 21708 \let\Corresponds\texthateq  
 21709 \let\nequal\textneq  
 21710 \let\Congruent\textequiv  
 21711 \let\NotCongruent\textnequiv  
 21712 \let\notequiv\textnequiv  
 21713 \let\LessOrEqual\textleq  
 21714 \let\LargerOrEqual\textgeq  
 21715 \let\apprle\textlessim

21716 \let\apprge\textgtrsim  
 21717 \let\varoplus\textoplus  
 21718 \let\varominus\textominus  
 21719 \let\varotimes\textotimes  
 21720 \let\varoslash\textoslash  
 21721 \let\varodot\textodot  
 21722 \let\ocirc\textcircledcirc  
 21723 \let\varocircle\textcircledcirc  
 21724 \let\varoast\textcircledast  
 21725 \let\oasterisk\textcircledast  
 21726 \let\rightvdash\textvdash  
 21727 \let\leftvdash\textdashv  
 21728 \let\leftvdash\textdashv  
 21729 \let\downvdash\texttop  
 21730 \let\upvdash\textbot  
 21731 \let\leftvdash\textnupvdash  
 21732 \let\models\textvDash  
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 21741 \let\lessclosed\textlhd  
 21742 \let\gtrclosed\textrhd  
 21743 \let\leqclosed\textunlhd  
 21744 \let\trianglelefteq\textunlhd  
 21745 \let\geqclosed\textunrhd  
 21746 \let\trianglerighteq\textunrhd  
 21747 \let\Bowtie\textbowtie  
 21748 \let\varcurlyvee\textcurlyvee  
 21749 \let\varcurlywedge\textcurlywedge  
 21750 \let\doublecap\textCap  
 21751 \let\doublecup\textCup  
 21752 \let\varsubsetneq\textsubsetneq  
 21753 \let\varsubsetneq\textsubsetneq  
 21754 \let\lessclosed\texttriangleleft  
 21755 \let\ngtrclosed\texttriangleright  
 21756 \let\Clocklogo\textclock  
 21757 \let\ClockLogo\textclock  
 21758 \let\baro\textstmaryrdbaro  
 21759 \let\varparallel\textbbslash  
 21760 \let\CleaningA\textCircledA  
 21761 \let\Kutline\textCuttingLine  
 21762 \let\CutLine\textCuttingLine  
 21763 \let\Cutline\textCuttingLine  
 21764 \let\MoveUp\textUParrow  
 21765 \let\APLup\textbigtriangleup



21766 \let\Bleech\textbigtriangleup  
 21767 \let\MoveDown\textDOWNarrow  
 21768 \let\APLdown\textbigtriangledown  
 21769 \let\Diamond\textdiamond  
 21770 \let\varbigcirc\textbigcircle  
 21771 \let\Telefon\textPhone  
 21772 \let\Box\textboxempty  
 21773 \let\CheckedBox\textCheckedbox  
 21774 \let\XBox\textCrossedbox  
 21775 \let\CrossedBox\textCrossedbox  
 21776 \let\rightpointleft\textHandLeft  
 21777 \let\leftpointright\textHandRight  
 21778 \let\PointingHand\textHandRight  
 21779 \let\Pointinghand\textHandRight  
 21780 \let\Radiation\textRadioactivity  
 21781 \let\Yinyang\textYinYang  
 21782 \let\YingYang\textYinYang  
 21783 \let\Yingyang\textYinYang  
 21784 \let\Frowny\textfrownie  
 21785 \let\Smiley\textsmiley  
 21786 \let\Sun\textsun  
 21787 \let\Mercury\textmercury  
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 21790 \let\venus\textPUfemale  
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 21803 \let\Taurus\texttaurus  
 21804 \let\Gemini\textgemini  
 21805 \let\Cancer\textcancer  
 21806 \let\Leo\textleo  
 21807 \let\Virgo\textvirgo  
 21808 \let\Libra\textlibra  
 21809 \let\Scorpio\textscorpio  
 21810 \let\Sagittarius\textsagittarius  
 21811 \let\Capricorn\textcapricornus  
 21812 \let\Aquarius\textaquarius  
 21813 \let\Pisces\textpisces  
 21814 \let\spadesuit\textspadesuitblack  
 21815 \let\Heart\textheartsuitwhite

21816 \let\heartsuit\textheartsuitwhite  
 21817 \let\diamondsuit\textdiamondsuitwhite  
 21818 \let\clubsuit\textclubsuitblack  
 21819 \let\eighthnote\textmusicalnote  
 21820 \let\Recycling\textrecycle  
 21821 \let\VarFlag\textFlag  
 21822 \let\textxswup\textdsimilitary  
 21823 \let\textuncrfemale\textPUuncrfemale  
 21824 \let\Football\textSoccerBall  
 21825 \let\CutLeft\textScissorRightBrokenBottom  
 21826 \let\Cutright\textScissorRightBrokenBottom  
 21827 \let\RightScissors\textScissorRight  
 21828 \let\Leftscissors\textScissorRight  
 21829 \let\Letter\textEnvelope  
 21830 \let\Writinghand\textWritingHand  
 21831 \let\checkmark\textCheckmark  
 21832 \let\davidstar\textDavidStar  
 21833 \let\llbracket\textlbrackdbl  
 21834 \let\rrbracket\textrrbrackdbl  
 21835 \let\RightTorque\textlcurvearrowdown  
 21836 \let\Righttorque\textlcurvearrowdown  
 21837 \let\LeftTorque\textrcurvearrowdown  
 21838 \let\Lefttorque\textrcurvearrowdown  
 21839 \let\textvarobar\textobar  
 21840 \let\circledbslash\textobslash  
 21841 \let\obackslash\textobslash  
 21842 \let\varobslash\textobslash  
 21843 \let\odplus\textobot  
 21844 \let\varolessthan\textolessthan  
 21845 \let\varogreaterthan\textogreaterthan  
 21846 \let\divdot\textminusdot  
 21847 \let\doublesqcap\textsquaddoublecap  
 21848 \let\doublesqcup\textsquaddoublecup  
 21849 \let\merge\textdoublevee  
 21850 \let\leftVdash\textdashV  
 21851 \let\leftVdash\textdashV  
 21852 \let\leftmodels\textDashv  
 21853 \let\leftmodels\textDashv  
 21854 \let\leftModels\textDashV  
 21855 \let\leftModels\textDashV  
 21856 \let\varparallel\textsslash  
 21857 \let\textheng\textPUheng  
 21858 \let\texthookfour\textPUhookfour  
 21859 \let\textscf\textPUscf  
 21860 \let\textaoig\textPUaolig  
 21861 \let\Ganz\textfullnote  
 21862 \let\Halb\texthalfnote  
 21863 \let\Womanface\textWomanFace  
 21864 \let\Faxmachine\textFax  
 21865 \let\CEsign\textCESign

```
21866 }% \psdaliasnames
21867 </psdextra>
```

## 52 End of file hyccheck.tex

```
21868 <*check>
21869 \typeout{}
21870 \begin{document}
21871 \end{document}
21872 </check>
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