

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

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## 1 Documentation overview for hyperref

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

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

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


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

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

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

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

Source code documentation:

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

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

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

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### 3 File hycheck.tex

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

```
1 <*check>
2 \documentclass{article}
3 \makeatletter
```

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

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

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

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

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

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

`\HyC@checkPackage`

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

```

40 }%
41 }

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}

```



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

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

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

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

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

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

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

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

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

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

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

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

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

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

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

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

\Hy@SetCatcodes

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

\Hy@RestoreCatcodes

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

```

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

```

```

231 \Hy@SetCatcodes

```

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

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

```

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

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

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

```

```

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

```

## 4.2 Version check

\Hy@VersionChecked

```

276 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

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

```

```

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

```

\Hy@@VersionCheck

```

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

```

### 4.3 Checks with regular expressions

```

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

```

```

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

```

#### 4.4 Compatibility with format dumps

`\AfterBeginDocument` For use with pre-compiled formats, created using the `ldump` package, there needs to be 2 hooks for adding material delayed until `\begin{document}`. These are called `\AfterBeginDocument` and `\AtBeginDocument`. If `ldump` is not loaded, then a single hook suffices for normal L<sup>A</sup>T<sub>E</sub>X processing.

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

```

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

```

`\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.

```

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

```

`\Hy@AtEndOfPackage`

```

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

```

`\Hy@AtBeginDocumentHook`

```

381 \let\Hy@AtBeginDocumentHook\ltx@empty

```

`\Hy@AtEndOfPackageHook`

```

382 \let\Hy@AtEndOfPackageHook\ltx@empty

```

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

```

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

```

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

```

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

```

## 4.5 Switches

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

Defaults for the switches are now set.

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



```

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

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

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

```

### 5.1 Macros for recursions

```

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

```

```
493 \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.

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

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

```

512 \fi
513 }%
514 \def\HyCal@do#1#2\@nil{%
515 \@ifpackageloaded{calc}{}{%
516 \Hy@Warning{%
517 For calculations \string\hypercalcbp\space needs\MessageBreak
518 package calc or e-TeX%
519 }%
520 }%
521 \setlength{\dimen@}{#1}%
522 \setlength{\dimen@}{0.99626401\dimen@}%
523 \edef\x{%
524 \toks@{%
525 \the\toks@
526 \strip@pt\dimen@
527 }%
528 }\x
529 \HyCal@scan#2\@nil
530 }%
531 \else
532 \def\hypercalcbp#1{%
533 \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
534 }%
535 \def\hypercalcbpdef{\def}%
536 \fi

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

### 6.1 Description of PDF strings

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

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

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

### 6.2 Definition of `\pdfstringdef`

The central macro for dealing with PDF strings is `\pdfstringdef`. It defines a command `#1` to be the result of the conversion from the string in `#2` to a legal

PDFDocEncoded string. Currently the definition is global, but this can be changed in the future.

Important: In T<sub>E</sub>X's view PDF strings are written to a file and are expanded only in its mouth. Stomach commands that cannot be expanded further aren't executed, they are written verbatim. But the PDF reader that reads such a string isn't a T<sub>E</sub>X interpreter!

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

1. Preprocessing. Here the expansion is prepared. The encoding is set and many commands are redefined, so that they work appropriate.
2. Expansion. The T<sub>E</sub>X string is expanded the first time to get a PDF string.
3. Postprocessing. The result of the expansion is checked and converted to the final form.

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

- The result should obey the rules of the PDF specification for strings.
- The string can safely be processed by T<sub>E</sub>X, because the tokens have only cat-codes 10 until 12.

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

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

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

```
538 \begingroup
```

### 6.2.1 Preprocessing

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

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

The escape sequences start with a backslash. By `\string` it will be printed. Therefore it is ensured that the T<sub>E</sub>X escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard L<sup>A</sup>T<sub>E</sub>X behaviour.

```
539 \escapechar'\%
```

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

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

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

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

```
543 \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.

```

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

```

556 \@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).

```

557 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

558 \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.

```

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

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

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

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

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

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

```

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

```

#### Package pifont.

```

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

```

#### Environments.

```

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

```

#### Package color.

```

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

```

#### Upper- and lowercase.

```

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

```

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

```

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

```

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

```

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

```

```

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

```

**Package german.**

```

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

```

**AMS classes.**

```

667 \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.

```

668 \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.

```

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

```



### Miscellaneous commands.

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

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

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

### Patch for cjk bookmarks.

```
684 \HyPsd@CJKhook
```

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

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

```
685 \Hy@pdfstringtrue
686 \pdfstringdefPreHook
```

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

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

### Package xspace.

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

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

```
699 \let\discretionary\@gobbletwo
```

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

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

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

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

```

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

```

Support for package ‘xargs’:

```

704 \let\@protected@testopt@xargs\HyPsd@protected@testopt

```

### 6.2.2 Expansion

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

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

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

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

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

```

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

```

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

```

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

```

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

```

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

```

### 6.2.3 Postprocessing

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

```

722 \ifx#1\@empty
723 \else

```

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

- `TEX` does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.
- An argument can be a single token or a group of many tokens. And within curly braces tokens aren't 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.

```

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

```

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

```

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

```
741 \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.

```

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

```

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

```

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

```

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

```

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

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

```

781 \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  $\text{T}_{\text{E}}\text{X}$  memory and time.

```

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

```

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

```

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

### Try conversion back to PDFDocEncoding.

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

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

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

`\Hy@pdfstringdef`

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

## 6.3 Encodings

### 6.3.1 XeTeX

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

```

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

```



```

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

```

### 6.3.2 Workaround for package linguex

```

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

```

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

\Hy@SaveCatcodeSettings

```

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

```

```

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

```

`\Hy@RestoreCatcodeSettings`

```

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

```

### 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.

```

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

```

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

```

```

991 }{}%
992 \DeclareFontFamily{PU}{pdf}{}%
993 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
994 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
995 \HyPsd@LoadExtra
996 \let\HyPsd@LoadUnicode\relax
997 }

```

`\HyPsd@LoadExtra`

```

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

```

## 6.4 Additional user commands

### 6.4.1 `\texorpdfstring`

`\texorpdfstring` While expanding the string in `\pdfstringdef` the switch `\ifHy@pdfstring` is set. This is used by the full expandible macro `\texorpdfstring`. It expects two arguments, the first contains the string that will be set and processed by  $\TeX$ 's stomach, the second contains the replacement for PDF strings.

```

1008 \def\texorpdfstring{%
1009   \ifHy@pdfstring
1010     \expandafter\@secondoftwo
1011   \else
1012     \expandafter\@firstoftwo
1013   \fi
1014 }

```

### 6.4.2 Hooks for `\pdfstringdef`

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

`\pdfstringdefPostHook`

```

1015 \@ifundefined{pdfstringdefPreHook}{}%
1016 \let\pdfstringdefPreHook\@empty
1017 }{}
1018 \@ifundefined{pdfstringdefPostHook}{}%
1019 \let\pdfstringdefPostHook\@gobble
1020 }{}

```

`\pdfstringdefDisableCommands`

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

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

```

\pdfstringdefDisableCommands{%

```

```

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

```

In the argument of `\pdfstringdefDisableCommands` the character `@` can be used in command names. So it is easy to use useful  $\text{\LaTeX}$  commands like `\@gobble` or `\@firstofone`.

```

1021 \def\pdfstringdefDisableCommands{%
1022   \begingroup
1023     \makeatletter
1024     \HyPsd@DisableCommands
1025 }

```

`\HyPsd@DisableCommands`

```

1026 \long\def\HyPsd@DisableCommands#1{%
1027   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
1028   \endgroup
1029 }

```

`\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`.

```

1030 \def\pdfstringdefWarn#1{%
1031   \expandafter\noexpand\csname<>-string#1\endcsname
1032 }

```

## 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.

```

1033 \begingroup
1034   \catcode0=12 %
1035   \def\x{\endgroup
1036     \def\HyPsd@ignorespaces{%
1037       \romannumeral\expandafter'\expandafter^^@%
1038       \romannumeral'^^@%
1039     }%
1040   }%
1041   \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`.

```

1042 \def\HyPsd@BabelPatch{%
1043   \let\HyOrg@languageshorthands\languageshorthands
1044   \let\languageshorthands\HyPsd@LanguageShorthands
1045 }
1046 \begingroup\expandafter\expandafter\expandafter\endgroup
1047 \expandafter\ifx\csname pdf@stricmp\endcsname\relax
1048   \let\HyPsd@langshort@system\@empty
1049   \def\HyPsd@LanguageShorthands#1{%
1050     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
1051       \HyPsd@langshort@system
1052     \expandafter\@gobble
1053   \else
1054     \expandafter\@firstofone
1055   \fi
1056   {%
1057     \HyOrg@languageshorthands{#1}%
1058   }%
1059 }%
1060 \else
1061   \def\HyPsd@LanguageShorthands#1{%
1062     \ifnum\pdf@stricmp{#1}{system}=\z@
1063       \expandafter\@gobble
1064     \else
1065       \expandafter\@firstofone
1066     \fi
1067     {%
1068       \HyOrg@languageshorthands{#1}%
1069     }%
1070   }%
1071 \fi
1072 \def\Hy@temp{%
1073   \ifpackageloaded{babel}{%
1074     \ifpackagelater{babel}{2008/03/16}{%
1075       \let\Hy@temp\@empty
1076     }{%
1077       \def\HyPsd@BabelPatch{%
1078         \let\HyOrg@languageshorthands\languageshorthands
1079       }%
1080     }%
1081   }{}%
1082 }
1083 \Hy@temp
1084 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
1085 \newif\ifHy@next

```

Nothing to do for english.

```

1086 \ltx@ifundefined{danish@sh@"@sel}{}{%
1087   \def\HyPsd@babel@danish{%
1088     \declare@shorthand{danish}{"}{}%

```

```

1089 \declare@shorthand{danish}{~}{-}%
1090 }%
1091 }
1092 \ltx@ifundefined{dutch@sh@}{@sel}{-}{%
1093 \def\HyPsd@babel@dutch{%
1094 \declare@shorthand{dutch}{~}{-}%
1095 \declare@shorthand{dutch}{~}{-}%
1096 }%
1097 }
1098 \ltx@ifundefined{finnish@sh@}{@sel}{-}{%
1099 \def\HyPsd@babel@finnish{%
1100 \declare@shorthand{finnish}{~}{-}%
1101 }%
1102 }
1103 \ltx@ifundefined{french@sh@}{@sel}{-}{%
1104 \def\HyPsd@babel@frenchb{%
1105 \def\guill@spacing{ }%
1106 }%
1107 }
1108 \ltx@ifundefined{german@sh@}{@sel}{-}{%
1109 \def\HyPsd@babel@german{%
1110 \declare@shorthand{german}{f}{f}%
1111 \declare@shorthand{german}{~}{-}%
1112 \declare@shorthand{german}{~}{-}%
1113 }%
1114 }
1115 \ltx@ifundefined{macedonian@sh@}{@sel}{-}{%
1116 \def\HyPsd@babel@macedonian{%
1117 \declare@shorthand{macedonian}{~}{-}%
1118 \declare@shorthand{macedonian}{~}{-}%
1119 }%
1120 }{}
1121 \ltx@ifundefined{ngerman@sh@}{@sel}{-}{%
1122 \def\HyPsd@babel@ngerman{%
1123 \declare@shorthand{ngerman}{~}{-}%
1124 \declare@shorthand{ngerman}{~}{-}%
1125 }%
1126 }
1127 \ltx@ifundefined{portuges@sh@}{@sel}{-}{%
1128 \def\HyPsd@babel@portuges{%
1129 \declare@shorthand{portuges}{~}{-}%
1130 }%
1131 }
1132 \ltx@ifundefined{russian@sh@}{@sel}{-}{%
1133 \def\HyPsd@babel@russian{%
1134 \declare@shorthand{russian}{~}{-}%
1135 \declare@shorthand{russian}{~}{-}%
1136 }%
1137 }
1138 \ltx@ifundefined{slovene@sh@}{@sel}{-}{%
1139 \def\HyPsd@babel@slovene{%
1140 \declare@shorthand{slovene}{~}{-}%
1141 }%
1142 }

```

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

```

1143 \ltx@ifundefined{spanish@sh@}{@sel}{-}{%
1144 \def\HyPsd@babel@spanish{%

```

```

1145 \declare@shorthand{spanish}{<<}{\guillemotleft}%
1146 \declare@shorthand{spanish}{>>}{\guillemotright}%
1147 \declare@shorthand{spanish}{"}={-}%
1148 \declare@shorthand{spanish}{"}~}{-}%
1149 \declare@shorthand{spanish}{"!}{\textexclamdown}%
1150 \declare@shorthand{spanish}{"?}{\textquestiondown}%
1151 }%
1152 }
1153 \ltx@ifundefined{swedish@sh@"@sel}{-}{%
1154 \def\HyPsd@babel@swedish{%
1155 \declare@shorthand{swedish}{"}|}{-}%
1156 \declare@shorthand{swedish}{"}~}{-}%
1157 }%
1158 }
1159 \ltx@ifundefined{ukrainian@sh@"@sel}{-}{%
1160 \def\HyPsd@babel@ukrainian{%
1161 \declare@shorthand{ukrainian}{"}|}{-}%
1162 \declare@shorthand{ukrainian}{"}~}{-}%
1163 }%
1164 }
1165 \ltx@ifundefined{usorbian@sh@"@sel}{-}{%
1166 \def\HyPsd@babel@usorbian{%
1167 \declare@shorthand{usorbian}{"}f}{f}%
1168 \declare@shorthand{usorbian}{"}|}{-}%
1169 }%
1170 }
1171 \ltx@ifundefined{greek@sh@\string~@sel}{-}{%
1172 \let\HyPsd@GreekPatch@empty
1173 }{%
1174 \def\HyPsd@GreekPatch{%
1175 \let\greeknumeral\HyPsd@greeknumeral
1176 \let\Greeknumeral\HyPsd@Greeknumeral
1177 }%
1178 }
1179 \def\HyPsd@greeknumeral#1{%
1180 \HyPsd@GreekNum\@firstoftwo{#1}%
1181 }
1182 \def\HyPsd@Greeknumeral#1{%
1183 \HyPsd@GreekNum\@secondoftwo{#1}%
1184 }
1185 \def\HyPsd@GreekNum#1#2{%
1186 \ifHy@unicode
1187 \ifnum#2<\@ne
1188 \@arabic{#2}%
1189 \else
1190 \ifnum#2<1000000 %
1191 \HyPsd@@GreekNum#1{#2}%
1192 \else
1193 \@arabic{#2}%
1194 \fi
1195 \fi
1196 \else
1197 \@arabic{#2}%
1198 \fi
1199 }
1200 \def\HyPsd@@GreekNum#1#2{%
1201 \ifnum#2<\@m

```

```

1202 \ifnum#2<10 %
1203 \expandafter\HyPsd@GreekNumI
1204 \expandafter\@gobble\expandafter#1\number#2%
1205 \else
1206 \ifnum#2<100 %
1207 \expandafter\HyPsd@GreekNumII
1208 \expandafter\@gobble\expandafter#1\number#2%
1209 \else
1210 \expandafter\HyPsd@GreekNumIII
1211 \expandafter\@gobble\expandafter#1\number#2%
1212 \fi
1213 \fi
1214 \ifnum#2>\z@
1215 \textnumeralsigngreek
1216 \fi
1217 \else
1218 \ifnum#2<\@M
1219 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1220 \else
1221 \ifnum#2<100000 %
1222 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1223 \else
1224 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1225 \fi
1226 \fi
1227 \fi
1228 }
1229 \def\HyPsd@GreekNumI#1#2#3{%
1230 #1{%
1231 \ifnum#3>\z@
1232 \textnumeralsignlowergreek
1233 \fi
1234 }%
1235 \expandafter#2%
1236 \ifcase#3 %
1237 {}{}%
1238 \or\textalpha\textAlpha
1239 \or\textbeta\textBeta
1240 \or\textgamma\textGamma
1241 \or\textdelta\textDelta
1242 \or\textepsilon\textEpsilon
1243 \or\textstigmagreek\textStigmagreek
1244 \or\textzeta\textZeta
1245 \or\texteta\textEta
1246 \or\texttheta\textTheta
1247 \else
1248 {}{}%
1249 \fi
1250 }
1251 \def\HyPsd@GreekNumII#1#2#3#4{%
1252 #1{%
1253 \ifnum#3>\z@
1254 \textnumeralsignlowergreek
1255 \fi
1256 }%
1257 \expandafter#2%
1258 \ifcase#3 %

```



```

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

```

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

```

1315 \def\HyPsd@RussianPatch{%
1316   \ltx@ifundefined{russian@sh@"@-@}{%
1317     }{%
1318     \@namedef{russian@sh@"@-@}{-}%
1319   }%
1320 }
```

### 6.5.3 CJK patch

```

1321 \RequirePackage{intcalc}[2007/09/27]

\HyPsd@CJKhook

1322 \def\HyPsd@CJKhook{%
1323   \ltx@ifpackageloaded{CJK}{%
1324     \let\CJK@kern\relax
1325     \let\CJKkern\relax
1326     \let\CJK@CJK\relax
1327     \ifHy@CJKbookmarks
1328       \HyPsd@CJKhook@bookmarks
1329     \fi
1330     \HyPsd@CJKhook@unicode
1331   }{%
1332 }
```

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

```

1333 \begingroup
1334   \catcode"7F=\active
1335   \toks@{%
1336     \let\CJK@ignorespaces\empty
1337     \def\CJK@char#1{\@gobbletwo}%
1338     \let\CJK@charx\@gobblefour
1339     \let\CJK@punctchar\@gobblefour
1340     \def\CJK@punctcharx#1{\@gobblefour}%
1341     \catcode"7F=\active
1342     \def^^7f#1^^7f#2^^7f{%
1343       \string #1\HyPsd@DecimalToOctal{#2}%
1344     }%
1345     % ... ?
1346     \ifHy@unicode
1347       \def\Hy@cjkpu{\80}%
1348     \else
1349       \let\Hy@cjkpu\@empty
1350     \fi
1351   \HyPsd@CJKActiveChars
```

```

1352 }%
1353 \count@=127 %
1354 \@whilenum\count@<255 \do{%
1355   \advance\count@ by 1 %
1356   \lccode'\~=\count@
1357   \lowercase{%
1358     \toks@\expandafter{\the\toks@ ~}%
1359   }%
1360 }%
1361 \toks@\expandafter{\the\toks@ !}%
1362 \xdef\HyPsd@CJKhook@bookmarks{%
1363   \the\toks@
1364 }%
1365 \endgroup

```

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

```

1366 \def\HyPsd@CJKActiveChars#1{%
1367   \ifx#1!%
1368     \let\HyPsd@CJKActiveChars\relax
1369   \else
1370     \edef#1{\noexpand\Hy@cjkpu\string#1}%
1371   \fi
1372   \HyPsd@CJKActiveChars
1373 }

```

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

```

1374 \def\HyPsd@DecimalToOctal#1{%
1375   \ifcase #1 %
1376     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1377     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1378     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1379     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1380     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1381     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1382     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1383     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1384     \or @\or A\or B\or C\or D\or E\or F\or G%
1385     \or H\or I\or J\or K\or L\or M\or N\or O%
1386     \or P\or Q\or R\or S\or T\or U\or V\or W%
1387     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1388     \or \140\or a\or b\or c\or d\or e\or f\or g%
1389     \or h\or i\or j\or k\or l\or m\or n\or o%
1390     \or p\or q\or r\or s\or t\or u\or v\or w%
1391     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1392     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1393     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1394     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1395     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1396     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1397     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1398     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1399     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1400     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1401     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1402     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1403     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%

```

```

1404 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1405 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1406 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1407 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1408 \fi
1409 }

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1410 \def\HyPsd@CJKhook@unicode{%
1411 \let\Unicode\HyPsd@CJK@Unicode
1412 \let\CJKnumber\HyPsd@CJKnumber
1413 \let\CJKdigits\HyPsd@CJKdigits
1414 }

```

\HyPsd@CJK@Unicode

```

1415 \def\HyPsd@CJK@Unicode#1#2{%
1416 \ifnum#1<256 %
1417 \HyPsd@DecimalToOctalFirst{#1}%
1418 \HyPsd@DecimalToOctalSecond{#2}%
1419 \else
1420 \933%
1421 \expandafter\expandafter\expandafter\HyPsd@HighA
1422 \intcalcDiv{#1}{4}!%
1423 \933%
1424 \ifcase\intcalcMod{#1}{4} %
1425 4\or 5\or 6\or 7%
1426 \fi
1427 \HyPsd@DecimalToOctalSecond{#2}%
1428 \fi
1429 }

1430 \def\HyPsd@HighA#1!{%
1431 \expandafter\expandafter\expandafter\HyPsd@HighB
1432 \IntCalcDiv#1!64!!%
1433 \expandafter\expandafter\expandafter\HyPsd@HighD
1434 \IntCalcMod#1!64!!%
1435 }
1436 \def\HyPsd@HighB#1!{%
1437 \expandafter\expandafter\expandafter\HyPsd@HighC
1438 \IntCalcDec#1!!%
1439 }
1440 \def\HyPsd@HighC#1!{%
1441 \IntCalcDiv#1!4!%
1442 \@backslashchar
1443 \IntCalcMod#1!4!%
1444 }
1445 \def\HyPsd@HighD#1!{%
1446 \ifcase\IntCalcDiv#1!8! %
1447 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1448 \fi
1449 \ifcase\IntCalcMod#1!8! %
1450 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1451 \fi
1452 }
1453 \def\HyPsd@DecimalToOctalFirst#1{%

```

```

1454 \9%
1455 \ifcase#1 %
1456     000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1457     \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1458     \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1459     \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1460     \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1461     \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1462     \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1463     \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1464     \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1465     \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1466     \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1467     \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1468     \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1469     \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1470     \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1471     \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1472     \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1473     \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1474     \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1475     \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1476     \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1477     \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1478     \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1479     \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1480     \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1481     \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1482     \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1483     \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1484     \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1485     \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1486     \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1487     \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1488 \fi
1489 }
1490 \def\HyPsd@DecimalToOctalSecond#1{%
1491     \ifcase #1 %
1492         \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1493         \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1494         \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1495         \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1496         \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1497         \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1498         \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1499         \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1500         \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1501         \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1502         \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1503         \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1504         \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1505         \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1506         \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1507         \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1508         \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1509         \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1510         \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%

```

```

1511 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1512 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1513 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1514 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1515 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1516 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1517 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1518 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1519 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1520 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1521 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1522 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1523 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1524 \fi
1525 }

1526 \def\HyPsd@CJKnumber#1{%
1527 \ifnum#1<\z@
1528 \CJK@minus
1529 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1530 \else
1531 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1532 \fi
1533 }

1534 \def\HyPsd@@CJKnumber#1{%
1535 \ifcase#1 %
1536 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1537 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1538 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1539 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1540 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1541 \CJK@ten\CJK@nine
1542 \else
1543 \ifnum#1<10000 %
1544 \HyPsd@CJKnumberFour#1!\@empty{20}%
1545 \@empty
1546 \else
1547 \ifnum#1<100000000 %
1548 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1549 \IntCalcDiv#1!10000!%
1550 !\{20}%
1551 \CJK@tenthousand
1552 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1553 \IntCalcMod#1!10000!%
1554 !\CJK@zero{10}%
1555 \@empty
1556 \else
1557 \expandafter\HyPsd@CJKnumberLarge
1558 \number\IntCalcDiv#1!100000000!\expandafter!%
1559 \number\IntCalcMod#1!100000000!!%
1560 \fi
1561 \fi
1562 \fi
1563 }

1564 \def\HyPsd@CJKnumberLarge#1!#2!{%
1565 \HyPsd@CJKnumberFour#1!\{20}%
1566 \CJK@hundredmillion
1567 \ifnum#2=\z@

```

```

1568 \else
1569 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1570 \IntCalcDiv#2!10000!%
1571 !\CJK@zero{10}%
1572 \CJK@tenthousand
1573 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1574 \IntCalcMod#2!10000!%
1575 !\CJK@zero{10}%
1576 \@empty
1577 \fi
1578 }
1579 \def\HyPsd@CJKnumberFour#1!#2#3{%
1580 \ifnum#1=\z@
1581 \expandafter\@gobble
1582 \else
1583 \ifnum#1<1000 %
1584 #2%
1585 \HyPsd@CJKnumberThree#1!#{#3}%
1586 \else
1587 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1588 \CJK@thousand
1589 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1590 \IntCalcMod#1!1000!%
1591 !\CJK@zero{10}%
1592 \fi
1593 \fi
1594 }
1595 \def\HyPsd@CJKnumberThree#1!#2#3{%
1596 \ifnum#1=\z@
1597 \else
1598 \ifnum#1<100 %
1599 #2%
1600 \HyPsd@CJKnumberTwo#1!#{#3}%
1601 \else
1602 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1603 \CJK@hundred
1604 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1605 \IntCalcMod#1!100!%
1606 !\CJK@zero{10}%
1607 \fi
1608 \fi
1609 }
1610 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1611 \ifnum#1=\z@
1612 \else
1613 \ifnum#1<#3 %
1614 #2%
1615 \HyPsd@@CJKnumber{#1}%
1616 \else
1617 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1618 \CJK@ten
1619 \ifnum\IntCalcMod#1!10!=\z@
1620 \else
1621 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1622 \fi
1623 \fi
1624 \fi

```

```

1625 }
1626 \def\HyPsd@CJKdigits#1{%
1627   \ifx*#1\relax
1628     \expandafter\HyPsd@@@CJKdigits\expandafter\CJK@zero
1629   \else
1630     \HyPsd@@@CJKdigits\CJK@null{#1}%
1631   \fi
1632 }
1633 \def\HyPsd@@@CJKdigits#1#2{%
1634   \ifx\#2\%
1635     \else
1636       \HyPsd@@@CJKdigits#1#2\@nil
1637     \fi
1638 }%
1639 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1640   \HyPsd@CJKdigit#1{#2}%
1641   \ifx\#3\%
1642     \expandafter\@gobble
1643   \else
1644     \expandafter\@firstofone
1645   \fi
1646   {%
1647     \HyPsd@@@CJKdigits#1#3\@nil
1648   }%
1649 }
1650 \def\HyPsd@CJKdigit#1#2{%
1651   \ifcase#2 %
1652     #1\or
1653     \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1654     \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1655   \fi
1656 }

```

### 6.5.6 \@inmathwarn-Patch

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

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

```

\def\@current@cmd#1{%
  \ifx\protect\@typeset@protect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changed@cmd#1#2{%
  \ifx\protect\@typeset@protect
    \@inmathwarn#1%
    \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
      \expandafter\ifx\csname?\string#1\endcsname\relax
        \expandafter\def\csname?\string#1\endcsname{%

```



```

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

1657 \def\HyPsd@inmathwarn#1#2{%
1658   \ifx#2\expandafter
1659     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1660       \HyPsd@GLYPHERR
1661       \expandafter\@gobble\string#1%
1662     >%
1663     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1664   \else
1665     \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1666   \fi
1667 \else
1668   \expandafter#2%
1669 \fi
1670 }
1671 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1672 \def\HyPsd@EndWithElse#1\else\else}

\HyPsd@add@accent

1673 \def\HyPsd@add@accent#1#2{%
1674   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1675   #2%
1676 }%

```

### 6.5.7 Unexpandable spaces

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

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

These properties are used in `\HyPsd@CheckCatcodes`.

```

1677 \def\HyPsd@LetUnexpandableSpace#1{%
1678   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1679 }

```

`\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.

```
1680 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace
```

### 6.5.8 Marker for commands

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

```
1681 \edef\HyPsd@XSPACE{\string#\string X}
1682 \edef\HyPsd@ITALCORR{\string#\string I}
1683 \edef\HyPsd@GLYPHERR{\string#\string G}
```

### 6.5.9 `\hspace` fix

`\HyPsd@hspace`

```
1684 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*END}
```

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

```
1685 \def\HyPsd@@hspace#1*#2END{%
1686   \ifx\#2\%
1687     \HyPsd@hspacetest{#1}%
1688   \else
1689     \expandafter\HyPsd@hspacetest
1690   \fi
1691 }
```

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

```
1692 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

### 6.5.10 Fix for AMS classes

```
1693 \ltx@ifundefined{tocsection}{%
1694   \let\HyPsd@AMSclassfix\relax
1695 }{%
1696   \def\HyPsd@AMSclassfix{%
1697     \let\tocpart\HyPsd@tocsection
1698     \let\tocchapter\HyPsd@tocsection
1699     \let\tocappendix\HyPsd@tocsection
1700     \let\tocsection\HyPsd@tocsection
1701     \let\tocsubsection\HyPsd@tocsection
1702     \let\tocsubsubsection\HyPsd@tocsection
1703     \let\tocparagraph\HyPsd@tocsection
1704   }%
1705   \def\HyPsd@tocsection#1#2#3{%
1706     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1707     #3%
1708   }%
1709 }
```

### 6.5.11 Reference commands

`\HyPsd@href`

```
1710 \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.

```
1711 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1712 \def\HyPsd@@ref#1*#2\END{%
1713   \ifx\#2\%
1714     \HyPsd@@@ref{#1}%
1715   \else
1716     \expandafter\HyPsd@@@ref
1717   \fi
1718 }%
```

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

```
1719 \def\HyPsd@@@ref#1{%
1720   \expandafter\ifx\csname r@#1\endcsname\relax
1721     ??%
1722   \else
1723     \expandafter\expandafter\expandafter
1724     \@car\csname r@#1\endcsname\@nil
1725   \fi
1726 }
```

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

```
1727 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1728 \def\HyPsd@@pageref#1*#2\END{%
1729   \ifx\#2\%
1730     \HyPsd@@@pageref{#1}%
1731   \else
1732     \expandafter\HyPsd@@@pageref
1733   \fi
1734 }
```

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

```
1735 \def\HyPsd@@@pageref#1{%
1736   \expandafter\ifx\csname r@#1\endcsname\relax
1737     ??%
1738   \else
1739     \expandafter\expandafter\expandafter\expandafter
1740     \expandafter\expandafter\expandafter\@car
1741     \expandafter\expandafter\expandafter\@gobble
1742     \csname r@#1\endcsname{}\@nil
1743   \fi
1744 }
```

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

```
1745 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```
1746 \def\HyPsd@@nameref#1*#2\END{%
1747   \ifx\#2\%
1748     \HyPsd@@@nameref{#1}%
```

```

1749 \else
1750 \expandafter\HyPsd@@@nameref
1751 \fi
1752 }

```

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

```

1753 \def\HyPsd@@@nameref#1{%
1754 \expandafter\ifx\csname r@#1\endcsname\relax
1755 ??%
1756 \else
1757 \expandafter\expandafter\expandafter\expandafter
1758 \expandafter\expandafter\expandafter\@car
1759 \expandafter\expandafter\expandafter\@gobbletwo
1760 \csname r@#1\endcsname\}\}\@nil
1761 \fi
1762 }

```

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

```

1763 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1764 \def\HyPsd@@autoref#1*#2\END{%
1765 \ifx\#2\%
1766 \HyPsd@@@autoref{#1}%
1767 \else
1768 \expandafter\HyPsd@@@autoref
1769 \fi
1770 }

```

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

```

1771 \def\HyPsd@@@autoref#1{%
1772 \expandafter\ifx\csname r@#1\endcsname\relax
1773 ??%
1774 \else
1775 \expandafter\expandafter\expandafter\HyPsd@autorefname
1776 \csname r@#1\endcsname\}\}\}\@nil
1777 \expandafter\expandafter\expandafter
1778 \@car\csname r@#1\endcsname\@nil
1779 \fi
1780 }

```

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

```

1781 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1782 \ifx\#4\%
1783 \else
1784 \HyPsd@@@autorefname#4.\@nil
1785 \fi
1786 }

```

\HyPsd@@@autorefname

```

1787 \def\HyPsd@@@autorefname#1.#2\@nil{%
1788 \ltx@ifundefined{#1autorefname}{%
1789 \ltx@ifundefined{#1name}{%
1790 }{%
1791 \csname#1name\endcsname\space
1792 }%

```

```

1793 }{%
1794   \csname#1\autorefname\endcsname\space
1795 }%
1796 }

```

### 6.5.12 Redefining the defining commands

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

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

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

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

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

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1797 \begingroup
1798   \def\x#1#2{%
1799     \endgroup
1800     \let#1\def
1801     \def\HyPsd@DefCommand##1##2###{%
1802       #1%
1803       \expandafter\noexpand
1804         \csname\expandafter\@gobble\string##1\@empty\endcsname
1805       \@gobble
1806     }%
1807     \let#2\let
1808     \def\HyPsd@@LetCommand##1{%
1809       \expandafter\ifx\csname##1\expandafter\endcsname
1810         \csname iftrue\endcsname
1811       \pdfstringdefWarn\let
1812       \expandafter\@gobble
1813     \else
1814       \expandafter\ifx\csname##1\expandafter\endcsname
1815         \csname iffalse\endcsname

```

```

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

```

### 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).

```

1834 \def\HyPsd@ifnextchar#1{%
1835 \pdfstringdefWarn#1%
1836 \expandafter\@gobbletwo\@gobble
1837 }

```

### 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`.

```

1838 \def\HyPsd@protected@testopt#1{%
1839 \pdfstringdefWarn#1%
1840 \@gobbletwo
1841 }

```

## 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:

```

1842 \def\HyPsd@Warning#1{%
1843   \begingroup
1844   \let\space\ltx@space
1845   \Hy@Warning{#1}%
1846 \endgroup
1847 }

```

### 6.6.2 Protecting spaces

```

1848 \RequirePackage{etexcmds}[2007/09/09]
1849 \ifetex@unexpanded
1850   \expandafter\@secondoftwo
1851 \else
1852   \expandafter\@firstoftwo
1853 \fi
1854 {%

```

`\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`.

```

1855 \def\HyPsd@ProtectSpaces#1{%
1856   \iftrue
1857     \expandafter\HyPsd@@ProtectSpacesFi
1858     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1859   \fi
1860 }%

```

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

```

1861 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1862   \fi
1863   \ifx\scrollmode#2\scrollmode
1864     \HyPsd@RemoveMask#1\HyPsd@End#3%
1865   \else
1866     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1867     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1868   \fi
1869 }%

```

### 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.

```

1870 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1871   \toks@\expandafter{#1}%
1872   \xdef#2{\the\toks@}%
1873 }%

1874 }{%
1875   \let\HyPsd@fi\fi
1876   \def\HyPsd@ProtectSpaces#1{%
1877     \xdef#1{%
1878       \iftrue
1879         \expandafter\HyPsd@@ProtectSpacesFi

```

```

1880     \expandafter\expandafter\@empty#1| %
1881     \HyPsd@fi
1882 }%
1883 \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1884 }%
1885 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1886   \fi
1887   \etex@unexpanded{#1}%
1888   \ifx\scrollmode#2\scrollmode
1889   \else
1890     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1891     \HyPsd@fi
1892   }%
1893 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1894   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1895 }%
1896 }

```

### 6.6.3 Remove grouping braces

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

```

1897 \def\HyPsd@RemoveBraces#1{%
1898   \ifx\scrollmode#1\scrollmode
1899   \else
1900     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1901     \fi
1902 }

```

`\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`.

```

1903 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1904   \fi
1905   \def\Hy@temp@A{#1#2}%
1906   \def\Hy@temp@B{#3}%
1907   \ifx\Hy@temp@A\Hy@temp@B
1908     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1909       \HyPsd@String#1%
1910     }%
1911   \ifx\scrollmode#2\scrollmode
1912   \else
1913     \Hy@ReturnAfterFiFiEnd{%
1914       \HyPsd@RemoveBraces{#2}%
1915     }%
1916   \fi
1917 \else
1918   \def\Hy@temp@A{#1}%
1919   \HyPsd@AppendItalcrr\HyPsd@String

```



```

1920 \ifx\Hy@temp@A\@empty
1921 \Hy@ReturnAfterElseFiFiEnd{%
1922 \HyPsd@RemoveBraces{#2}%
1923 }%
1924 \else
1925 \HyPsd@ProtectSpaces\Hy@temp@A
1926 \HyPsd@AppendItalcorr\Hy@temp@A
1927 \Hy@ReturnAfterFiFiEnd{%
1928 \expandafter\HyPsd@RemoveBraces\expandafter
1929 {\Hy@temp@A#2}%
1930 }%
1931 \fi
1932 \fi
1933 \Hy@ReturnEnd
1934 }

```

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

```

1935 \def\HyPsd@AppendItalcorr#1{%
1936 \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1%
1937 }
1938 \def\HyPsd@@AppendItalcorr#1#2{%
1939 \expandafter\def\expandafter#2\expandafter{#2#1}%
1940 }

```

#### 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>.

```

1941 \ltx@ifundefined{directlua}{%
1942 }{%
1943 \expandafter\ifx\csname\endcsname\relax\fi
1944 }

```

#### 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`.

```

1945 \begingroup
1946 \catcode'\Q=\active
1947 \let Q\ltx@empty
1948 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1949 \global\let\HyPsd@Rest\relax
1950 \ifcat\relax\noexpand#1\relax

```

```

1951 \ifx#1\protect
1952 \else
1953 \ifx#1\penalty
1954 \setbox\z@=\hbox{%
1955 \afterassignment\HyPsd@AfterCountRemove
1956 \count@=#2\HyPsd@End
1957 }%
1958 \else
1959 \ifx#1\kern
1960 \setbox\z@=\hbox{%
1961 \afterassignment\HyPsd@AfterDimenRemove
1962 \dimen@=#2\HyPsd@End
1963 }%
1964 \else
1965 \ifx#1\hskip
1966 \setbox\z@=\hbox{%
1967 \afterassignment\HyPsd@AfterSkipRemove
1968 \skip@=#2\HyPsd@End
1969 }%
1970 \else
1971 \HyPsd@CatcodeWarning{#1}%
1972 \fi
1973 \fi
1974 \fi
1975 \fi
1976 \else
1977 \ifcat\noexpand#1\noexpandQ% active character
1978 \expandafter\expandafter\expandafter\def
1979 \expandafter\expandafter\expandafter\HyPsd@String
1980 \expandafter\expandafter\expandafter{%
1981 \expandafter\HyPsd@String\string#1%
1982 }%
1983 \else
1984 \ifcat#1A% letter
1985 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1986 \HyPsd@String#1%
1987 }%
1988 \else
1989 \ifcat#1 % SPACE
1990 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1991 \HyPsd@String\HyPsd@SPACEOPTI
1992 }%
1993 \else
1994 \ifcat$#1%
1995 \HyPsd@CatcodeWarning{math shift}%
1996 \else
1997 \ifcat&#1%
1998 \HyPsd@CatcodeWarning{alignment tab}%
1999 \else
2000 \ifcat^#1%
2001 \HyPsd@CatcodeWarning{superscript}%
2002 \else
2003 \ifcat_#1%
2004 \HyPsd@CatcodeWarning{subscript}%
2005 \else
2006 \expandafter\def\expandafter\HyPsd@String\expandafter{%
2007 \HyPsd@String#1%

```

```

2008         }%
2009         \fi
2010     \fi
2011 \fi
2012 \fi
2013 \fi
2014 \fi
2015 \fi
2016 \fi
2017 \ifx\HyPsd@Rest\relax
2018     \ifx\scrollmode#2\scrollmode
2019     \else
2020         \Hy@ReturnAfterFiFiEnd{%
2021             \HyPsd@CheckCatcodes#2\HyPsd@End
2022         }%
2023     \fi
2024 \else
2025     \ifx\HyPsd@Rest\@empty
2026     \else
2027         \Hy@ReturnAfterFiFiEnd{%
2028             \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
2029         }%
2030     \fi
2031 \fi
2032 \Hy@ReturnEnd
2033 }%
2034 \endgroup

```

### Remove counts, dimens, skips.

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

```

2035 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
2036     \gdef\HyPsd@Rest{#1}%
2037 }

```

`\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.

```

2038 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
2039     \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
2040         \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
2041         \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
2042     \else
2043         \ifdim\dimen@=\z@
2044         \else
2045             \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
2046         \fi
2047         \gdef\HyPsd@Rest{#1}%
2048     \fi
2049 }

```

`\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).

```

2050 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
2051     \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
2052         \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%

```

```

2053 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
2054 \else
2055 \ifdim\skip@=\z@
2056 \else
2057 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
2058 \fi
2059 \gdef\HyPsd@Rest{#1}%
2060 \fi
2061 }

```

### Catcode warnings.

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

```

2062 \def\HyPsd@CatcodeWarning#1{%
2063 \HyPsd@Warning{%
2064 Token not allowed in a PDF string (%)
2065 \ifHy@unicode
2066 Unicode%
2067 \else
2068 PDFDocEncoding%
2069 \fi
2070 }:%
2071 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
2072 }%
2073 }
2074 \begingroup
2075 \catcode'\|=0 %
2076 \catcode'\|=12 %
2077 \gdef\HyPsd@RemoveCmdPrefix#1{%
2078 |expandafter\HyPsd@@RemoveCmdPrefix
2079 |string#1|@empty\<>-|@empty|@empty
2080 }%
2081 \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
2082 \endgroup

```

\HyPsd@RemoveSpaceWarning

```

2083 \def\HyPsd@RemoveSpaceWarning#1{%
2084 \HyPsd@Warning{%
2085 Token not allowed in a PDF string (%)
2086 \ifHy@unicode
2087 Unicode%
2088 \else
2089 PDFDocEncoding%
2090 \fi
2091 }:%
2092 \MessageBreak #1\MessageBreak
2093 removed%
2094 }%
2095 }

```

\HyPsd@ReplaceSpaceWarning

```

2096 \def\HyPsd@ReplaceSpaceWarning#1{%
2097 \HyPsd@Warning{%
2098 Token not allowed in a PDF string (%)
2099 \ifHy@unicode
2100 Unicode%
2101 \else

```

```

2102 PDFDocEncoding%
2103 \fi
2104 ):%
2105 \MessageBreak #1\MessageBreak
2106 replaced by space%
2107 }%
2108 }

```

### 6.6.5 Check for wrong glyphs

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

```

2109 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2110 \expandafter\def\expandafter\HyPsd@String\expandafter{%
2111 \HyPsd@String#1%
2112 }%
2113 \ifx\#2\%
2114 \else
2115 \ltx@ReturnAfterFi{%
2116 \HyPsd@GlyphProcessWarning#2\@empty
2117 }%
2118 \fi
2119 }
2120 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2121 \HyPsd@@@GlyphProcessWarning#1++>%
2122 \HyPsd@GlyphProcess#2\@empty
2123 }
2124 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
2125 \ifx\#2\%
2126 \HyPsd@Warning{%
2127 Glyph not defined in %
2128 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2129 removing '@backslashchar#1'%
2130 }%
2131 \else
2132 \HyPsd@Warning{%
2133 Composite letter '@backslashchar#1+#2'\MessageBreak
2134 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2135 \MessageBreak
2136 removing '@backslashchar#1'%
2137 }%
2138 \fi
2139 }

```

### 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`.

```

2140 \def\HyPsd@spaceopti#1{ % first space
2141 \ifx\HyPsd@spaceopti#1%
2142 \040%
2143 \else
2144 #1%
2145 \fi
2146 }%

```

### 6.6.6 Replacing tokens

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

```
#1    Exact the tokens that should be replaced.
#2    The replacement (don't need to be expanded).
#3    Command with the string.
2147 \def\HyPsd@Subst#1#2#3{%
2148   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
2149     \fi
2150     ##1%
2151     \ifx\scrollmode##2\scrollmode
2152     \else
2153       #2%
2154       \HyPsd@@ReplaceFi##2\END
2155     \fi
2156   }%
2157   \xdef#3{%
2158     \iftrue
2159       \expandafter\HyPsd@@ReplaceFi#3#1\END
2160     \fi
2161   }%
2162 }
```

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

```
2163 \def\HyPsd@StringSubst#1{%
2164   \expandafter\HyPsd@Subst\expandafter{\string#1}%
2165 }
```

`\HyPsd@EscapeTeX`

```
2166 \begingroup
2167   \lccode'\!='\%%
2168   \lccode'\|='\%%
2169   \lccode'\(='\{%
2170   \lccode'\)='\}%
2171   \lccode'0=\ltx@zero
2172   \lccode'1=\ltx@zero
2173   \lccode'3=\ltx@zero
2174   \lccode'4=\ltx@zero
2175   \lccode'5=\ltx@zero
2176   \lccode'7=\ltx@zero
2177 \lowercase{\endgroup
2178   \def\HyPsd@EscapeTeX#1{%
2179     \HyPsd@Subst!{|045}#1%
2180     \HyPsd@Subst({|173}#1%
2181     \HyPsd@Subst){|175}#1%
2182   }%
2183 }
```

### 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.

```

2184 \def\HyPsd@doxspace#1{%
2185   \ifx#1\relax\else
2186     \ifx#1.\else
2187       \ifx#1:\else
2188         \ifx#1,\else
2189         \ifx#1;\else
2190         \ifx#1!\else
2191         \ifx#1?\else
2192         \ifx#1/\else
2193         \ifx#1-\else
2194         \ifx#1'\else
2195         \HyPsd@SPACEOPTI
2196       \fi
2197     \fi
2198   \fi
2199 \fi
2200 \fi
2201 \fi
2202 \fi
2203 \fi
2204 \fi
2205 \fi
2206 #1%
2207 }%

```

### 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.

```

2208 \begingroup
2209   \catcode'\|=0 %
2210   \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

2211 |gdef|HyPsd@ConvertToUnicode#1{%
2212   |xdef#1{%
2213     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2214   }%
2215   |ifx#1|@empty
2216   |else
2217     |xdef#1{%
2218       \376\377%
2219       #1%
2220     }%
2221   |fi
2222 }%

```

\HyPsd@DoConvert

```

2223 |gdef|HyPsd@DoConvert#1{%
2224   |ifx#1|@empty
2225   |else
2226     |ltx@ReturnAfterFi{%
2227       |ifx#1\%%
2228       \%%
2229       |expandafter|HyPsd@DoEscape
2230     |else

```

```

2231      |HyPsd@Char{#1}%
2232      |expandafter|HyPsd@DoConvert
2233      |fi
2234    }%
2235    |fi
2236  }%

```

\HyPsd@DoEscape

```

2237 |gdef|HyPsd@DoEscape#1{%
2238   |ifx#19%
2239   |expandafter|HyPsd@GetTwoBytes
2240   |else
2241   |ltx@ReturnAfterFi{%
2242   |ifx#18%
2243   00%
2244   |expandafter|HyPsd@GetTwoBytes
2245   |else
2246   #1%
2247   |expandafter|HyPsd@GetOneByte
2248   |fi
2249   }%
2250   |fi
2251 }%

```

\HyPsd@GetTwoBytes

```

2252 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2253   #1\#2#3#4%
2254   |HyPsd@DoConvert
2255 }%

```

\HyPsd@GetOneByte

```

2256 |gdef|HyPsd@GetOneByte#1#2{%
2257   #1#2%
2258   |HyPsd@DoConvert
2259 }%
2260 |endgroup

```

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

```

2261 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2262   \xdef#4{#4#1#2}%
2263   \HyPsd@@ConvertToUnicode#3\END#4%
2264 }

```

\HyPsd@Char

```

2265 \begingroup
2266   \catcode0=9 %
2267   \catcode'\^=7 %
2268   \catcode'\^^=12 %
2269   \def\x{^^^^0000}%
2270 \expandafter\endgroup
2271 \ifx\x\@empty
2272   \def\HyPsd@Char#1{%
2273     \ifnum'#1<128 %
2274       \@backslashchar 000#1%
2275     \else
2276       \ifnum'#1<65536 %

```



```

2277 \expandafter\HyPsd@CharTwoByte\number'#1!%
2278 \else
2279 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2280 \intcalcSub{'#1}{65536}!%
2281 \fi
2282 \fi
2283 }%
2284 \def\HyPsd@CharTwoByte#1!{%
2285 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2286 \IntCalcDiv#1!256!!%
2287 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2288 \IntCalcMod#1!256!!%
2289 }%
2290 \def\HyPsd@CharOctByte#1!{%
2291 \@backslashchar
2292 \IntCalcDiv#1!64!%
2293 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2294 \IntCalcMod#1!8!%
2295 }%
2296 \def\HyPsd@CharSurrogate#1!{%
2297 \@backslashchar 33%
2298 \IntCalcDiv#1!262144!%
2299 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2300 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2301 \@backslashchar 33%
2302 \expandafter\expandafter\expandafter\IntCalcAdd
2303 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2304 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2305 \IntCalcMod#1!256!!%
2306 }%
2307 \else
2308 \def\HyPsd@Char#1{%
2309 \@backslashchar 000#1%
2310 }%
2311 \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`

```

2312 \begingroup\expandafter\expandafter\expandafter\endgroup
2313 \expandafter\ifx\csname numexpr\endcsname\relax
2314 \let\HyPsd@UTFviii\relax
2315 \else
2316 \begingroup
2317 \lccode'\~='^^f4\relax
2318 \lowercase{\endgroup
2319 \def\HyPsd@UTFviii{%

```

```

2320 \let\UTFviii@two@octets\HyPsd@UTFviii@two
2321 \let\UTFviii@three@octets\HyPsd@UTFviii@three
2322 \let\UTFviii@four@octets\HyPsd@UTFviii@four
2323 \ifx~\HyPsd@UTFviii@ccxliv@undef
2324 \let~\HyPsd@UTFviii@ccxliv@def
2325 \fi
2326 \let\unichar\HyPsd@unichar
2327 }%
2328 }%
2329 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}}%
2330 \edef\HyPsd@UTFviii@ccxliv@def{%
2331 \noexpand\UTFviii@four@octets\string~^f4%
2332 }%

```

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

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

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

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

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

$$(5)$$

```

2333 \def\HyPsd@UTFviii@two#1#2{%
2334 \expandafter\HyPsd@UTFviii@@two
2335 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2336 \number'#1\expandafter| %
2337 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2338 \number'#2 \@nil
2339 }%
2340 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2341 \expandafter\8%
2342 \number\numexpr #1-48\expandafter\relax
2343 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2344 \number\numexpr #3-8*%
2345 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2346 \number\numexpr #4-8*#3\relax
2347 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2348 \def\HyPsd@UTFviii@three#1#2#3{%
2349 \expandafter\HyPsd@UTFviii@@three
2350 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2351 \number'#1\expandafter| %

```

```

2352 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2353 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2354 \number'#2\expandafter| %
2355 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2356 \number'#3 \@nil
2357 }%
2358 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2359 \expandafter\9%
2360 \number\numexpr #1-56\expandafter\relax
2361 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2362 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2363 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2364 \number\numexpr #6-16\expandafter\relax
2365 \number\numexpr #7-8*#6\relax
2366 }%

```

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

```

```

2367 \def\HyPsd@UTFviii@four#1#2{%
2368 \expandafter\HyPsd@UTFviii@four\number
2369 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2370 \expandafter|\number
2371 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2372 }%
2373 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2374 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2375 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2376 \ifodd#2 %
2377 \number\numexpr(#2-1)/2\relax
2378 \else
2379 \number\numexpr#2/2\relax
2380 \fi
2381 \number\numexpr\ifodd#2 4+\fi
2382 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2383 \933%
2384 \expandafter\HyPsd@@@UTFviii@four\number
2385 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2386 }%
2387 \def\HyPsd@@@UTFviii@four#1|#2{%
2388 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2389 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2390 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2391 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2392 }%

```

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

```

2393 \def\HyPsd@unichar#1{%
2394 \ifHy@unicode
2395 \ifnum#1>"10FFFF %
2396 \HyPsd@UnicodeReplacementCharacter % illegal
2397 \else
2398 \ifnum#1>"FFFF %

```

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

```

2399      \expandafter\HyPsd@unichar\expandafter{%
2400      \number\numexpr 55296+%
2401      \dimexpr.0009765625\dimexpr\number#1sp-\p@
2402      \relax\relax\relax
2403      }%

```

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

```

2404      \expandafter\HyPsd@unichar\expandafter{%
2405      \number\numexpr#1-9216%
2406      -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2407      \relax\relax\relax
2408      }%
2409      \else
2410      \ifnum#1>"7FF %
2411      \9%
2412      \expandafter\HyPsd@unichar@first@byte\expandafter{%
2413      \number
2414      \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2415      }%
2416      \else
2417      \8%
2418      \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2419      \fi
2420      \expandafter\HyPsd@unichar@second@byte\expandafter{%
2421      \number
2422      \numexpr#1-256*\number
2423      \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2424      }%
2425      \fi
2426      \fi
2427      \else
2428      .% unsupported (Unicode -> PDF Doc Encoding)
2429      \fi
2430      }%
2431      \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2432      \def\HyPsd@unichar@first@byte#1{%
2433      \number\dimexpr.015625\dimexpr#1sp\relax\relax
2434      \expandafter\HyPsd@unichar@octtwo\expandafter{%
2435      \number
2436      \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2437      \relax\relax\relax
2438      }%
2439      }%
2440      \def\HyPsd@unichar@second@byte#1{%
2441      \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2442      \expandafter\HyPsd@unichar@octtwo\expandafter{%
2443      \number
2444      \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2445      \relax\relax\relax
2446      }%
2447      }%
2448      \def\HyPsd@unichar@octtwo#1{%
2449      \number\dimexpr.125\dimexpr#1sp\relax\relax
2450      \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2451      \relax\relax\relax
2452      }%

```

2453 \fi

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

```
2454 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2455   \ifx\@gobble#1%
2456   \else
2457     [Please insert \textbackslash PrerenderUnicode%
2458     \textbraceleft#1\textbraceright\space
2459     into preamble]%
2460   \fi
2461 }%
```

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

\HyPsd@DieFace Die faces are provided by

Package	Macro
ifsym	\Cube
epsdice	\epsdice
hhcount	\fcdice

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

```
2462 \def\HyPsd@DieFace#1{%
2463   \ifHy@unicode
2464     \ifnum#1<1 %
2465       \HyPsd@UnicodeReplacementCharacter
2466     \else
2467       \ifnum#1>6 %
2468         \9046\205%
2469         \expandafter\expandafter\expandafter
2470         \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2471       \else
2472         \9046\20\intcalcDec{#1}%
2473       \fi
2474     \fi
2475   \else
2476     .% Die faces are not part of PDFDocEncoding
2477   \fi
2478 }
```

\HyPsd@DieFaceLarge

```
2479 \def\HyPsd@DieFaceLarge#1!{%
2480   \ifnum#1>6 %
2481     \expandafter\ltx@firstoftwo
2482   \else
2483     \expandafter\ltx@secondoftwo
2484   \fi
2485   {%
2486     \9046\205%
2487     \expandafter\expandafter\expandafter
2488     \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2489   }{%
2490     \9046\20\IntCalcDec#1!%
2491   }%
2492 }
```

### 6.6.11 Support for moon phases of package china2e

```

2493 \def\HyPsd@MoonPha#1{%
2494   \ifcase\intcalcNum{#1} %
2495     \HyPsd@UnicodeReplacementCharacter
2496   \or % 1
2497   % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2498   \9330\074\9337\032%
2499   \or % 2
2500   \HyPsd@UnicodeReplacementCharacter
2501   \or % 3
2502   % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2503   \9330\074\9337\035%
2504   \or % 4
2505   % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2506   \9330\074\9337\034%
2507   \else
2508     \HyPsd@UnicodeReplacementCharacter
2509   \fi
2510 }
2511 %* \HyPsd@MoonPha -> \MoonPha

```

### 6.6.12 Support for package pifont

\HyPsd@ding

```

2512 \def\HyPsd@ding#1{%
2513   \ifHy@unicode
2514     \ifnum#1<32 %
2515       \HyPsd@UnicodeReplacementCharacter
2516     \else
2517       \ifnum#1>254 %
2518         \HyPsd@UnicodeReplacementCharacter
2519       \else
2520         \ifnum#1<127 %
2521           \expandafter\expandafter\expandafter
2522           \HyPsd@@@ding\intcalcNum{#1}!%
2523         \else
2524           \ifnum#1>160 %
2525             \expandafter\expandafter\expandafter
2526             \HyPsd@@@ding\intcalcNum{#1}!%
2527           \else
2528             \HyPsd@UnicodeReplacementCharacter
2529           \fi
2530         \fi
2531       \fi
2532     \fi
2533   \else
2534     .% Dingbats are not part of PDFDocEncoding
2535   \fi
2536 }

```

\HyPsd@@@ding

```

2537 \def\HyPsd@@@ding#1!{%
2538   \ltx@ifundefined{HyPsd@ding@#1}{%
2539     \ifnum#1<127 %
2540       \9047%
2541       \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2542     \else

```

```

2543 \ifnum#1<168 %
2544 \9047\14\IntCalcSub#1!160!%
2545 \else
2546 \ifnum#1>181 %
2547 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2548 \else
2549 % 172..181 -> U+2460..U+2469
2550 \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2551 \fi
2552 \fi
2553 \fi
2554 }{%
2555 \csname HyPsd@ding@#1\endcsname
2556 }%
2557 }

2558 \@namedef{HyPsd@ding@32}{\space}
2559 % U+260E BLACK TELEPHONE
2560 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2561 % U+261B BLACK RIGHT POINTING INDEX
2562 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2563 % U+261E WHITE RIGHT POINTING INDEX
2564 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2565 % U+2605 BLACK STAR
2566 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2567 % U+25CF BLACK CIRCLE
2568 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2569 % U+25A0 BLACK SQUARE
2570 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2571 % U+25B2 BLACK UP-POINTING TRIANGLE
2572 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2573 % U+25BC BLACK DOWN-POINTING TRIANGLE
2574 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2575 % U+25C6 BLACK DIAMOND
2576 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2577 % U+25D7 RIGHT HALF BLACK CIRCLE
2578 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2579 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2580 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2581 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2582 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2583 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2584 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2585 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2586 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

## 7 Support of other packages

### 7.1 Class memoir

```

2587 \@ifclassloaded{memoir}{%
2588 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}%
2589 }{}

```

### 7.2 Package subfigure

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

```

2590 \@ifpackageloaded{subfigure}{%
2591   \ltx@ifundefined{sub@label}{%
2592     \Hy@hypertexnamesfalse
2593   }{%
2594     \renewcommand*{\sub@label}[1]{%
2595       \@bsphack
2596       \subfig@oldlabel{#1}%
2597       \if@filesw
2598         \begingroup
2599         \edef\@currentlabstr{%
2600           \expandafter\strip@prefix\meaning\@currentlabelname
2601         }%
2602         \protected@write\@auxout{}{%
2603           \string\newlabel{sub@#1}{%
2604             {\@nameuse{\@thesub\@captive}}%
2605             {\thepage}%
2606             {%
2607               \expandafter\strip@period\@currentlabstr
2608               \relax.\relax\@@@%
2609             }%
2610             {\@currentHref}%
2611             {}%
2612           }%
2613         }%
2614       \endgroup
2615     \fi
2616     \@esphack
2617   }%
2618   \@ifpackagelater{subfigure}{2002/03/26}{%
2619     \providecommand*\@toclevel@subfigure{1}%
2620     \providecommand*\@toclevel@subtable{1}%
2621   }%
2622 }%
2623 }{}

```

### 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:

```

2624 \ltx@ifundefined{XR@addURL}{%
2625 }{}

```

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.

```

2626 \def\xr@addURL#1{\xr@dURL#1{}{}{}\\}%
2627 \def\xr@dURL#1#2#3#4#5\\{%
2628   {#1}{#2}%
2629   \if!#4!%
2630     \else
2631       {#3}{#4}{\xr@URL}%
2632     \fi
2633   }%
2634 }

2635 \def\Hy@true{true}
2636 \def\Hy@false{false}

```

Providing dummy definitions.



```

2637 \let\literalps@out\@gobble
2638 \newcommand\pdfbookmark[3][{}]{
2639 \def\Acrobatmenu#1#2{\leavevmode#2}
2640 \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

```

2641 \let\HyperRaiseLinkHook\@empty
2642 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2643 \newcount\Hy@SavedSpaceFactor
2644 \def\Hy@SaveSpaceFactor{%
2645 \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2646 }
2647 \def\Hy@RestoreSpaceFactor{%
2648 \relax
2649 \ifhmode
2650 \ifnum\Hy@SavedSpaceFactor>\z@
2651 \spacefactor=\Hy@SavedSpaceFactor
2652 \fi
2653 \fi
2654 }
2655 \def\Hy@SaveSavedSpaceFactor{%
2656 \edef\Hy@RestoreSavedSpaceFactor{%
2657 \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2658 }%
2659 }
2660 \def\Hy@raisedlink#1{%
2661 \ifvmode
2662 #1%
2663 \else
2664 \Hy@SaveSpaceFactor
2665 \penalty\@M
2666 \smash{%
2667 \begingroup
2668 \let\HyperRaiseLinkLength\@tempdima
2669 \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2670 \HyperRaiseLinkHook
2671 \expandafter\endgroup
2672 \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2673 \Hy@RestoreSpaceFactor
2674 #1%
2675 \Hy@SaveSpaceFactor

```

```

2676 }%
2677 }%
2678 \Hy@RestoreSpaceFactor
2679 \fi
2680 }

```

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

```

2681 \def\Hy@SaveLastskip{%
2682 \let\Hy@RestoreLastskip\relax
2683 \ifvmode
2684 \ifdim\lastskip=\z@
2685 \let\Hy@RestoreLastskip\nobreak
2686 \else
2687 \begingroup
2688 \skip@=-\lastskip
2689 \edef\x{%
2690 \endgroup
2691 \def\noexpand\Hy@RestoreLastskip{%
2692 \noexpand\ifvmode
2693 \noexpand\nobreak
2694 \vskip\the\skip@
2695 \vskip\the\lastskip\relax
2696 \noexpand\fi
2697 }%
2698 }%
2699 \x
2700 \fi
2701 \else
2702 \ifhmode
2703 \ifdim\lastskip=\z@
2704 \let\Hy@RestoreLastskip\nobreak
2705 \else
2706 \begingroup
2707 \skip@=-\lastskip
2708 \edef\x{%
2709 \endgroup
2710 \def\noexpand\Hy@RestoreLastskip{%
2711 \noexpand\ifhmode
2712 \noexpand\nobreak
2713 \hskip\the\skip@
2714 \hskip\the\lastskip\relax
2715 \noexpand\fi
2716 }%
2717 }%
2718 \x
2719 \fi
2720 \fi
2721 \fi
2722 }%

```

## 9 Options

```

2723 \SetupKeyvalOptions{%
2724 family=Hyp,%
2725 prefix=HyOpt%
2726 }

```

## 9.1 Help macros

`\IfHyperBooleanExists`

```
2727 \def\IfHyperBooleanExists#1{%
2728   \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2729     \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2730   }%
2731 }

2732 \@namedef{KV@Hyp@stoppeearly@default}{{}}
```

`\IfHyperBoolean`

```
2733 \def\IfHyperBoolean#1{%
2734   \IfHyperBooleanExists{#1}{%
2735     \csname ifHy@#1\endcsname
2736     \expandafter\ltx@firstoftwo
2737   \else
2738     \expandafter\ltx@secondoftwo
2739   \fi
2740 } \ltx@secondoftwo
2741 }
```

`\Hy@boolkey`

```
2742 \def\Hy@boolkey#1#2{%
2743   \edef\Hy@tempa{#2}%
2744   \lowercase\expandafter{%
2745     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2746   }%
2747   \ifx\Hy@tempa\@empty
2748     \let\Hy@tempa\Hy@true
2749   \fi
2750   \ifx\Hy@tempa\Hy@true
2751   \else
2752     \ifx\Hy@tempa\Hy@false
2753     \else
2754       \let\Hy@tempa\relax
2755     \fi
2756   \fi
2757   \ifx\Hy@tempa\relax
2758     \Hy@WarnOptionValue{#2}{#1}{‘true’ or ‘false’}%
2759   \else
2760     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2761     \csname Hy@#1\Hy@tempa\endcsname
2762   \fi
2763 }
```

`\Hy@WarnOptionValue`

```
2764 \def\Hy@WarnOptionValue#1#2#3{%
2765   \Hy@Warning{%
2766     Unexpected value ‘#1’\MessageBreak
2767     of option ‘#2’ instead of\MessageBreak
2768     #3%
2769   }%
2770 }
```

`\Hy@DisableOption`

```
2771 \def\Hy@DisableOption#1{%
```

```

2772 \ltx@ifundefined{KV@Hyp@#1@default}{%
2773   \define@key{Hyp}{#1}%
2774 }{%
2775   \define@key{Hyp}{#1}[]%
2776 }%
2777 {\Hy@WarnOptionDisabled{#1}}%
2778 }

```

`\Hy@WarnOptionDisabled`

```

2779 \def\Hy@WarnOptionDisabled#1{%
2780   \Hy@Warning{%
2781     Option ‘#1’ has already been used,\MessageBreak
2782     setting the option has no effect%
2783   }%
2784 }

```

`\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`.

```

2785 \def\Hy@CheckOptionValue#1#2#3{%
2786   \begingroup
2787   \edef\x{#1}%
2788   \@onelevel@sanitize\x
2789   \let\y=y%
2790   \def\do##1##2{%
2791     \def\z{##1}%
2792     \@onelevel@sanitize\z
2793     \ifx\x\z
2794       \let\y=n%
2795       \let\do\@gobbletwo
2796     \fi
2797   }%
2798   #3%
2799   \ifx\y y%
2800     \def\do##1##2{%
2801       * ‘##1’%
2802       \ifx\\##2\\\else\space(##2)\fi
2803       \MessageBreak
2804     }%
2805     \Hy@Warning{%
2806       Values of option ‘#2’:\MessageBreak
2807       #3%
2808       * An empty value disables the option.\MessageBreak
2809       Unknown value ‘x’%
2810     }%
2811   \fi
2812 \endgroup
2813 }

```

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

```

2814 \def\Hy@DefNameKey#1{%
2815   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2816 }

```

```

\Hy@@DefNameKey #1: macro for value storage
#2: option name
#3: \do list with known values.
2817 \def\Hy@@DefNameKey#1#2#3{%
2818 \define@key{Hyp}{#2}{%
2819 \edef#1{##1}%
2820 \ifx#1\@empty
2821 \else
2822 \Hy@CheckOptionValue{##1}{#2}{#3}%
2823 \fi
2824 }%
2825 \let#1\@empty
2826 }

```

```

\Hy@UseNameKey
2827 \def\Hy@UseNameKey#1#2{%
2828 \ifx#2\@empty
2829 \else
2830 /#1/#2%
2831 \fi
2832 }

```

## 9.2 Defining the options

```

2833 \define@key{Hyp}{implicit}[true]{%
2834 \Hy@boolkey{implicit}{#1}%
2835 }
2836 \define@key{Hyp}{draft}[true]{%
2837 \Hy@boolkey{draft}{#1}%
2838 }
2839 \define@key{Hyp}{final}[true]{%
2840 \Hy@boolkey{final}{#1}%
2841 }
2842 \let\KV@Hyp@nolinks\KV@Hyp@draft
2843 \def\Hy@ObsoletePaperOption#1{%
2844 \Hy@WarningNoLine{%
2845 Option ‘#1’ is no longer used%
2846 }%
2847 \define@key{Hyp}{#1}[true]{}%
2848 }
2849 \def\Hy@temp#1{%
2850 \define@key{Hyp}{#1}[true]{%
2851 \Hy@ObsoletePaperOption{#1}%
2852 }%
2853 }
2854 \Hy@temp{a4paper}
2855 \Hy@temp{a5paper}
2856 \Hy@temp{b5paper}
2857 \Hy@temp{letterpaper}
2858 \Hy@temp{legalpaper}
2859 \Hy@temp{executivepaper}
2860 \define@key{Hyp}{setpagesize}[true]{%
2861 \Hy@boolkey{setpagesize}{#1}%
2862 }
2863 \define@key{Hyp}{debug}[true]{%
2864 \Hy@boolkey{debug}{#1}%

```

```

2865 }
2866 \define@key{Hyp}{linktocpage}[true]{%
2867   \Hy@boolkey{linktocpage}{#1}%
2868   \ifHy@linktocpage
2869     \let\Hy@linktoc\Hy@linktoc@page
2870   \else
2871     \let\Hy@linktoc\Hy@linktoc@section
2872   \fi
2873 }
2874 \chardef\Hy@linktoc@none=0 %
2875 \chardef\Hy@linktoc@section=1 %
2876 \chardef\Hy@linktoc@page=2 %
2877 \chardef\Hy@linktoc@all=3 %
2878 \ifHy@linktocpage
2879   \let\Hy@linktoc\Hy@linktoc@page
2880 \else
2881   \let\Hy@linktoc\Hy@linktoc@section
2882 \fi
2883 \define@key{Hyp}{linktoc}{%
2884   \@ifundefined{Hy@linktoc@#1}{%
2885     \Hy@Warning{%
2886       Unexpected value '#1' of\MessageBreak
2887       option 'linktoc' instead of 'none',\MessageBreak
2888       'section', 'page' or 'all'%
2889     }%
2890   }{%
2891     \expandafter\let\expandafter\Hy@linktoc
2892     \csname Hy@linktoc@#1\endcsname
2893   }%
2894 }
2895 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2896 \let\XR@ext\relax
2897 \define@key{Hyp}{verbose}[true]{%
2898   \Hy@boolkey{verbose}{#1}%
2899 }
2900 \define@key{Hyp}{typexml}[true]{%
2901   \Hy@boolkey{typexml}{#1}%
2902 }

```

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.

```

2903 \define@key{Hyp}{raiselinks}[true]{%
2904   \Hy@boolkey{raiselinks}{#1}%
2905 }

```

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

```

2906 \def\Hy@setbreaklinks#1{%
2907   \csname breaklinks#1\endcsname
2908 }
2909 \def\Hy@breaklinks@unsupported{%
2910   \ifx\Hy@setbreaklinks\@gobble
2911     \ifHy@breaklinks
2912       \Hy@WarningNoLine{%
2913         You have enabled option 'breaklinks'\MessageBreak
2914         But driver '\Hy@driver.def' does not support this.\MessageBreak
2915         Expect trouble with the link areas of broken links%

```

```

2916     }%
2917   \fi
2918 \fi
2919 }

2920 \define@key{Hyp}{breaklinks}[true]{%
2921   \Hy@boolkey{breaklinks}{#1}%
2922   \let\Hy@setbreaklinks\@gobble
2923 }

2924 \define@key{Hyp}{localanchorname}[true]{%
2925   \Hy@boolkey{localanchorname}{#1}%
2926 }

```

Determines whether an automatic anchor is put on each page

```

2927 \define@key{Hyp}{pageanchor}[true]{%
2928   \Hy@boolkey{pageanchor}{#1}%
2929 }

```

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.

```

2930 \define@key{Hyp}{plainpages}[true]{%
2931   \Hy@boolkey{plainpages}{#1}%
2932 }

```

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?

```

2933 \define@key{Hyp}{naturalnames}[true]{%
2934   \Hy@boolkey{naturalnames}{#1}%
2935 }

```

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

```

2936 \define@key{Hyp}{hypertextnames}[true]{%
2937   \Hy@boolkey{hypertextnames}{#1}%
2938 }

```

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

```

2939 \define@key{Hyp}{nesting}[true]{%
2940   \Hy@boolkey{nesting}{#1}%
2941 }

```

```

2942 \define@key{Hyp}{destlabel}[true]{%
2943   \Hy@boolkey{destlabel}{#1}%
2944 }

```

```

2945 \define@key{Hyp}{unicode}[true]{%
2946   \Hy@boolkey{unicode}{#1}%
2947   \ifHy@unicode
2948     \def\HyPsd@pdfencoding{unicode}%
2949     \HyPsd@LoadUnicode
2950   \else
2951     \def\HyPsd@pdfencoding{pdfdoc}%
2952   \fi
2953 }

```

```

2954 \Hy@AtBeginDocument{%
2955   \ifx\HyPsd@LoadUnicode\relax
2956   \else
2957     \def\HyPsd@LoadUnicode{%
2958       \Hy@Error{%
2959         Unicode support for bookmarks is not available.\MessageBreak
2960         Activate unicode support by using one of the options\MessageBreak

```

```

2961     'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2962     in the preamble%
2963 } \@ehc
2964 \global\let\HyPsd@LoadUnicode\relax
2965 \global\Hy@unicodedefalse
2966 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2967 }%
2968 \fi
2969 }

2970 \define@key{Hyp}{pdfencoding}{%
2971 \edef\HyPsd@temp{#1}%
2972 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2973 \let\HyPsd@pdfencoding\HyPsd@temp
2974 \Hy@unicodedefalse
2975 \else
2976 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2977 \z@
2978 \else
2979 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2980 \z@
2981 \else
2982 \@ne
2983 \fi
2984 \fi
2985 \let\HyPsd@pdfencoding\HyPsd@temp
2986 \hypersetup{unicode}%
2987 \ifHy@unicode
2988 \def\HyPsd@pdfencoding{#1}%
2989 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2990 \HyPsd@LoadStringEncoding
2991 \fi
2992 \else
2993 \Hy@Warning{Cannot switch to unicode bookmarks}%
2994 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2995 \fi
2996 \else
2997 \@onelevel@sanitize\HyPsd@temp
2998 \Hy@Warning{%
2999 Values of option 'pdfencoding':\MessageBreak
3000 'pdfdoc', 'unicode', 'auto'.\MessageBreak
3001 Ignoring unknown value '\HyPsd@temp'%
3002 }%
3003 \fi
3004 \fi
3005 }
3006 \def\HyPsd@pdfencoding@auto{auto}
3007 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
3008 \def\HyPsd@pdfencoding@unicode{unicode}
3009 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
3010 \def\HyPsd@LoadStringEncoding{%
3011 \RequirePackage{stringenc}[2009/12/15]%
3012 \let\HyPsd@LoadStringEncoding\relax
3013 }
3014 \Hy@AtBeginDocument{%
3015 \@ifpackageloaded{stringenc}{%
3016 \let\HyPsd@LoadStringEncoding\relax
3017 }{%

```



```

3018 \def\HyPsd@LoadStringEnc{%
3019 \Hy@WarningNoLine{%
3020 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
3021 in the preamble or load the package there%
3022 }%
3023 }%
3024 }%
3025 }

3026 \define@key{Hyp}{psdextra}[true]{%
3027 \Hy@boolkey{psdextra}{#1}%
3028 \HyPsd@LoadExtra
3029 }

3030 \def\hypersetup{\kvsetkeys{Hyp}}

3031 \newif\ifHy@setpdfversion
3032 \define@key{Hyp}{pdfversion}{%
3033 \ifundefined{Hy@pdfversion@#1}{%
3034 \PackageWarning{hyperref}{%
3035 Unsupported PDF version '#1'.\MessageBreak
3036 Valid values: 1.2 until 1.9%
3037 }%
3038 }{%
3039 \Hy@setpdfversiontrue
3040 \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
3041 }%
3042 }

3043 \@namedef{Hy@pdfversion@1.2}{2}%
3044 \@namedef{Hy@pdfversion@1.3}{3}%
3045 \@namedef{Hy@pdfversion@1.4}{4}%
3046 \@namedef{Hy@pdfversion@1.5}{5}%
3047 \@namedef{Hy@pdfversion@1.6}{6}%
3048 \@namedef{Hy@pdfversion@1.7}{7}%
3049 \@namedef{Hy@pdfversion@1.8}{8}%
3050 \@namedef{Hy@pdfversion@1.9}{9}%
3051 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

3052 \newif\ifHy@DviMode
3053 \let\Hy@DviErrMsg\ltx@empty
3054 \ifpdf
3055 \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
3056 \else
3057 \ifxetex
3058 \def\Hy@DviErrMsg{XeTeX is running}%
3059 \else
3060 \ifvtex
3061 \ifvtexdvi
3062 \Hy@DviModetrue
3063 \else
3064 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
3065 \fi
3066 \else
3067 \Hy@DviModetrue
3068 \fi
3069 \fi
3070 \fi

```

```

3071 \def\HyOpt@CheckDvi#1{%
3072   \ifHy@DviMode
3073     \expandafter\ltx@firstofone
3074   \else
3075     \Hy@Error{%
3076       Wrong DVI mode driver option '#1',\MessageBreak
3077       because \Hy@DviErrMsg
3078     }\@ehc
3079   \expandafter\ltx@gobble
3080 \fi
3081 }

3082 \DeclareVoidOption{tex4ht}{%
3083   \Hy@texhttrue
3084   \kvsetkeys{Hyp}{colorlinks=true}%
3085   \def\BeforeTeXIVht{\RequirePackage{color}}%
3086   \def\Hy@driver{htex4ht}%
3087   \def\MaybeStopEarly{%
3088     \Hy@Message{Stopped early}%
3089   \Hy@AtBeginDocument{%
3090     \PDF@FinishDoc
3091     \gdef\PDF@FinishDoc{}%
3092   }%
3093   \endinput
3094 }%
3095 }

3096 \DeclareVoidOption{pdftex}{%
3097   \ifpdf
3098     \def\Hy@driver{hpdftex}%
3099   \else
3100     \Hy@Error{%
3101       Wrong driver option 'pdftex',\MessageBreak
3102       because pdfTeX in PDF mode is not detected%
3103     }\@ehc
3104   \fi
3105 }

3106 \DeclareVoidOption{nativepdf}{%
3107   \HyOpt@CheckDvi{nativepdf}{%
3108     \def\Hy@driver{hdvips}%
3109   }%
3110 }

3111 \DeclareVoidOption{dvipdfm}{%
3112   \HyOpt@CheckDvi{dvipdfm}{%
3113     \def\Hy@driver{hdvipdfm}%
3114   }%
3115 }

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

3121 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
3122   \expandafter\ifx\csname if#1\expandafter\endcsname
3123     \csname iftrue\endcsname
3124   \chardef\SpecialDvipdfmxOutlineOpen\@ne
3125 \else
3126   \chardef\SpecialDvipdfmxOutlineOpen\z@
3127 \fi

```

```

3128 }
3129 \DeclareVoidOption{xetex}{%
3130   \ifxetex
3131     \def\Hy@driver{hxtex}%
3132   \else
3133     \Hy@Error{%
3134       Wrong driver option 'xetex',\MessageBreak
3135       because XeTeX is not detected%
3136     }\@ehc
3137   \fi
3138 }
3139 \DeclareVoidOption{pdfmark}{%
3140   \HyOpt@CheckDvi{pdfmark}{%
3141     \def\Hy@driver{hdvips}%
3142   }%
3143 }
3144 \DeclareVoidOption{dvips}{%
3145   \HyOpt@CheckDvi{dvips}{%
3146     \def\Hy@driver{hdvips}%
3147   }%
3148 }
3149 \DeclareVoidOption{hypertex}{%
3150   \HyOpt@CheckDvi{hypertex}{%
3151     \def\Hy@driver{hypertex}%
3152   }%
3153 }
3154 \let\Hy@MaybeStopNow\relax
3155 \DeclareVoidOption{vtex}{%
3156   \ifvtex
3157     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3158     \def\Hy@driver{hvtex}%
3159   \else
3160     \ifnum\OpMode=10\relax
3161       \def\Hy@driver{hvtexhtm}%
3162       \def\MaybeStopEarly{%
3163         \Hy@Message{Stopped early}%
3164         \Hy@AtBeginDocument{%
3165           \PDF@FinishDoc
3166           \gdef\PDF@FinishDoc{}%
3167         }%
3168       \endinput
3169     }%
3170   \else
3171     \Hy@Error{%
3172       Wrong driver option 'vtex',\MessageBreak
3173       because of wrong OpMode (\the\OpMode)%
3174     }\@ehc
3175   \fi
3176 }
3177 \else
3178   \Hy@Error{%
3179     Wrong driver option 'vtex',\MessageBreak
3180     because VTeX is not running%
3181   }\@ehc
3182 }
3183 }
3184 \DeclareVoidOption{vtexpdfmark}{%

```

```

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

```

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

```

3223 \DeclareVoidOption{ps2pdf}{}%
3224 \HyOpt@CheckDvi{ps2pdf}{}%
3225 \def\Hy@driver{hdvips}%
3226 }%
3227 }
3228 \let\HyOpt@DriverFallback\ltx@empty
3229 \define@key{Hyp}{driverfallback}{}%
3230 \ifHy@DviMode
3231   \def\HyOpt@DriverFallback{#1}%
3232   \Hy@Match\HyOpt@DriverFallback{%
3233     ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3234     latex2html|tex4ht)$%
3235   }{}{%
3236     \let\HyOpt@DriverFallback\ltx@empty
3237   }%
3238 \fi
3239 }

```

```

3240 \let\HyOpt@CustomDriver\ltx@empty
3241 \define@key{Hyp}{customdriver}{%
3242   \IfFileExists{#1.def}{%
3243     \def\HyOpt@CustomDriver{#1}%
3244   }{%
3245     \Hy@Warning{%
3246       Missing driver file '#1.def',\MessageBreak
3247       ignoring custom driver%
3248     }%
3249   }%
3250 }

```

## 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.

```

3251 \define@key{Hyp}{hyperfigures}[true]{%
3252   \Hy@boolkey{hyperfigures}{#1}%
3253 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3254 \define@key{Hyp}{hyperfootnotes}[true]{%
3255   \Hy@boolkey{hyperfootnotes}{#1}%
3256 }

```

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

```

3257 \def\back@none{none}
3258 \def\back@section{section}
3259 \def\back@page{page}
3260 \def\back@slide{slide}
3261 \define@key{Hyp}{backref}[section]{%
3262   \lowercase{\def\Hy@tempa{#1}}%
3263   \ifx\Hy@tempa\@empty
3264     \let\Hy@tempa\back@section
3265   \fi
3266   \ifx\Hy@tempa\Hy@false
3267     \let\Hy@tempa\back@none
3268   \fi
3269   \ifx\Hy@tempa\back@slide
3270     \let\Hy@tempa\back@section
3271   \fi
3272   \ifx\Hy@tempa\back@page
3273     \PassOptionsToPackage{hyperpageref}{backref}%
3274     \Hy@backreftrue
3275   \else
3276     \ifx\Hy@tempa\back@section
3277       \PassOptionsToPackage{hyperref}{backref}%
3278       \Hy@backreftrue
3279     \else
3280       \ifx\Hy@tempa\back@none
3281         \Hy@backreffalse
3282       \else
3283         \Hy@WarnOptionValue{#1}{backref}{%
3284           'section', 'slide', 'page', 'none',\MessageBreak
3285           or 'false'}%
3286       \fi
3287     \fi
3288   \fi

```

```

3289 }
3290 \define@key{Hyp}{pagebackref}[true]{%
3291   \edef\Hy@tempa{#1}%
3292   \lowercase\expandafter{%
3293     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3294   }%
3295   \ifx\Hy@tempa\@empty
3296     \let\Hy@tempa\Hy@true
3297   \fi
3298   \ifx\Hy@tempa\Hy@true
3299     \PassOptionsToPackage{hyperpageref}{backref}%
3300     \Hy@backreftrue
3301   \else
3302     \ifx\Hy@tempa\Hy@false
3303       \Hy@backreffalse
3304     \else
3305       \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
3306     \fi
3307   \fi
3308 }

```

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

```

3309 \define@key{Hyp}{hyperindex}[true]{%
3310   \Hy@boolkey{hyperindex}{#1}%
3311 }

```

Configuration of encap char.

```

3312 \define@key{Hyp}{encap}[|]{%
3313   \def\HyInd@EncapChar{#1}%
3314 }

```

## 12 Language options

The \autoref feature depends on the language.

```

3315 \def\HyLang@afrikaans{%
3316   \def\equationautorefname{Vergelyking}%
3317   \def\footnoteautorefname{Voetnota}%
3318   \def\itemautorefname{Item}%
3319   \def\figureautorefname{Figuur}%
3320   \def\tableautorefname{Tabel}%
3321   \def\partautorefname{Deel}%
3322   \def\appendixautorefname{Bylae}%
3323   \def\chapterautorefname{Hoofstuk}%
3324   \def\sectionautorefname{Afdeling}%
3325   \def\subsectionautorefname{Subafdeling}%
3326   \def\subsubsectionautorefname{Subsubafdeling}%
3327   \def\paragraphautorefname{Paragraaf}%
3328   \def\subparagraphautorefname{Subparagraaf}%
3329   \def\FancyVerbLineautorefname{Lyn}%
3330   \def\theoremautorefname{Teorema}%
3331   \def\pageautorefname{Bladsy}%
3332 }
3333 \def\HyLang@english{%
3334   \def\equationautorefname{Equation}%
3335   \def\footnoteautorefname{footnote}%
3336   \def\itemautorefname{item}%

```

```

3337 \def\figureautorefname{Figure}%
3338 \def\tableautorefname{Table}%
3339 \def\partautorefname{Part}%
3340 \def\appendixautorefname{Appendix}%
3341 \def\chapterautorefname{chapter}%
3342 \def\sectionautorefname{section}%
3343 \def\subsectionautorefname{subsection}%
3344 \def\subsubsectionautorefname{subsubsection}%
3345 \def\paragraphautorefname{paragraph}%
3346 \def\subparagraphautorefname{subparagraph}%
3347 \def\FancyVerbLineautorefname{line}%
3348 \def\theoremautorefname{Theorem}%
3349 \def\pageautorefname{page}%
3350 }
3351 \def\HyLang@french{%
3352 \def\equationautorefname{'Equation}%
3353 \def\footnoteautorefname{note}%
3354 \def\itemautorefname{item}%
3355 \def\figureautorefname{Figure}%
3356 \def\tableautorefname{Tableau}%
3357 \def\partautorefname{Partie}%
3358 \def\appendixautorefname{Appendice}%
3359 \def\chapterautorefname{chapitre}%
3360 \def\sectionautorefname{section}%
3361 \def\subsectionautorefname{sous-section}%
3362 \def\subsubsectionautorefname{sous-sous-section}%
3363 \def\paragraphautorefname{paragraphe}%
3364 \def\subparagraphautorefname{sous-paragraphe}%
3365 \def\FancyVerbLineautorefname{ligne}%
3366 \def\theoremautorefname{Th\'eor\`eme}%
3367 \def\pageautorefname{page}%
3368 }
3369 \def\HyLang@german{%
3370 \def\equationautorefname{Gleichung}%
3371 \def\footnoteautorefname{Fu\ss note}%
3372 \def\itemautorefname{Punkt}%
3373 \def\figureautorefname{Abbildung}%
3374 \def\tableautorefname{Tabelle}%
3375 \def\partautorefname{Teil}%
3376 \def\appendixautorefname{Anhang}%
3377 \def\chapterautorefname{Kapitel}%
3378 \def\sectionautorefname{Abschnitt}%
3379 \def\subsectionautorefname{Unterabschnitt}%
3380 \def\subsubsectionautorefname{Unterunterabschnitt}%
3381 \def\paragraphautorefname{Absatz}%
3382 \def\subparagraphautorefname{Unterabsatz}%
3383 \def\FancyVerbLineautorefname{Zeile}%
3384 \def\theoremautorefname{Theorem}%
3385 \def\pageautorefname{Seite}%
3386 }
3387 \def\HyLang@italian{%
3388 \def\equationautorefname{Equazione}%
3389 \def\footnoteautorefname{nota}%
3390 \def\itemautorefname{punto}%
3391 \def\figureautorefname{Figura}%
3392 \def\tableautorefname{Tabella}%
3393 \def\partautorefname{Parte}%

```

```

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

```

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`.

```

3441 \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`?

```
3442 \def\equationautorefname{\cyr\cyrv\cyrry\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`.

```
3443 % \def\equationautorefname{%
3444 %   \cyr\cyrv\cyrry\cyrr\cyra\cyrrh\cyre\cyrn\cyri\cyre
3445 % }%
```

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

```
3446 \def\footnoteautorefname{%
3447   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
3448 }%
```

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}`”

```
3449 % \def\footnoteautorefname{%
3450 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
3451 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
3452 % }%
```

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

```
3453 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3454 % \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.

```
3455 \def\itemautorefname{\cyr\cyrp.}%
3456 % \def\itemautorefname{\cyr\cyrp\cyru\cyrk\cyrt}%
```

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

```
3457 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3458 \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.

```
3459 \def\partautorefname{\cyr\cyrch.}%
3460 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3461 \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.

```
3462 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
3463 % \def\appendixautorefname{%
3464 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrh\cyre\cyrn\cyri\cyre
3465 % }%
```

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.

```

3466 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3467 \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.

```

3468 \def\paragraphautorefname{\cyr\cyrp.}%
3469 \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.

```

3470 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3471 % \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.

```

3472 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

```

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

```

3473 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3474 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%

```

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

```

3475 % \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 ...

```

3476 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%

```

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

```

3477 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3478 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%

```

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

```

3479 \def\pageautorefname{\cyr\cyrs.}%
3480 }

```

```

3481 \def\HyLang@spanish{%
3482 \def\equationautorefname{Ecuaci'on}%
3483 \def\footnoteautorefname{Nota a pie de p'agina}%
3484 \def\itemautorefname{Elemento}%
3485 \def\figureautorefname{Figura}%
3486 \def\tableautorefname{Tabla}%
3487 \def\partautorefname{Parte}%
3488 \def\appendixautorefname{Ap'endice}%
3489 \def\chapterautorefname{Cap'itulo}%
3490 \def\sectionautorefname{Secci'on}%
3491 \def\subsectionautorefname{Subsecci'on}%
3492 \def\subsubsectionautorefname{Subsubsecci'on}%
3493 \def\paragraphautorefname{P'arrafo}%
3494 \def\subparagraphautorefname{Subp'arrafo}%
3495 \def\FancyVerbLineautorefname{L'inea}%
3496 \def\theoremautorefname{Teorema}%
3497 \def\pageautorefname{P'agina}%

```

```

3498 }
3499 \def\HyLang@vietnamese{%
3500 \def\equationautorefname{Ph\uhorn{}}\ohorn{}ng tr\`inh}%
3501 \def\footnoteautorefname{Ch\`u th\`ich}%
3502 \def\itemautorefname{m\`d{u}c}%
3503 \def\figureautorefname{H\`inh}%
3504 \def\tableautorefname{B\`h{a}ng}%
3505 \def\partautorefname{Ph\`acircumflex{}n}%
3506 \def\appendixautorefname{Ph\`d{u} l\`d{u}c}%
3507 \def\chapterautorefname{ch\uhorn{}}\ohorn{}ng}%
3508 \def\sectionautorefname{m\`d{u}c}%
3509 \def\subsectionautorefname{m\`d{u}c}%
3510 \def\subsubsectionautorefname{m\`d{u}c}%
3511 \def\paragraphautorefname{dj{}}o\`d{a}n}%
3512 \def\subparagraphautorefname{dj{}}o\`d{a}n}%
3513 \def\FancyVerbLineautorefname{d\`ong}%
3514 \def\theoremautorefname{DJ{}}d{i}nh l\`y}%
3515 \def\pageautorefname{Trang}%
3516 }

```

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

```

3517 \def\HyLang@addto#1#2{%
3518   #2%
3519   \@temptokena{#2}%
3520   \ifx#1\relax
3521     \let#1\@empty
3522   \fi
3523   \ifx#1\@undefined
3524     \edef#1{\the\@temptokena}%
3525   \else
3526     \toks@\expandafter{#1}%
3527     \edef#1{\the\toks@\the\@temptokena}%
3528   \fi
3529   \@temptokena{}\toks@\@temptokena
3530 }

3531 \def\HyLang@DeclareLang#1#2#3{%
3532 \ifpackagewith{babel}{#1}{%
3533   \expandafter\HyLang@addto
3534     \csname extras#1\expandafter\endcsname
3535     \csname HyLang@#2\endcsname
3536   \begingroup
3537     \edef\x{\endgroup
3538       #3%
3539     }%
3540     \x
3541     \@namedef{HyLang@#1@done}{}%
3542 }{}%
3543 \begingroup
3544   \edef\x##1##2{%
3545     \noexpand\ifx##2\relax
3546       \errmessage{No definitions for language #2' found!}%
3547     \noexpand\fi
3548   \endgroup
3549   \noexpand\define@key{Hyp}{#1}[]{%
3550     \noexpand\@ifundefined{HyLang@#1@done}{%
3551       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%

```

```

3552      #3%
3553      \noexpand\@namedef{HyLang@#1@done}{}%
3554    }{}%
3555  }%
3556 }%
3557 \expandafter\x\csname extras#1\expandafter\endcsname
3558       \csname HyLang@#2\endcsname
3559 }
3560 \HyLang@DeclareLang{english}{english}{}
3561 \HyLang@DeclareLang{UKenglish}{english}{}
3562 \HyLang@DeclareLang{british}{english}{}
3563 \HyLang@DeclareLang{USenglish}{english}{}
3564 \HyLang@DeclareLang{american}{english}{}
3565 \HyLang@DeclareLang{german}{german}{}
3566 \HyLang@DeclareLang{austrian}{german}{}
3567 \HyLang@DeclareLang{ngerman}{german}{}
3568 \HyLang@DeclareLang{naustrian}{german}{}
3569 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3570 \HyLang@DeclareLang{brazil}{portuges}{}
3571 \HyLang@DeclareLang{brazilian}{portuges}{}
3572 \HyLang@DeclareLang{portuguese}{portuges}{}
3573 \HyLang@DeclareLang{spanish}{spanish}{}
3574 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3575 \HyLang@DeclareLang{french}{french}{}
3576 \HyLang@DeclareLang{frenchb}{french}{}
3577 \HyLang@DeclareLang{francais}{french}{}
3578 \HyLang@DeclareLang{acadian}{french}{}
3579 \HyLang@DeclareLang{canadien}{french}{}
3580 \HyLang@DeclareLang{italian}{italian}{}
3581 \HyLang@DeclareLang{magyar}{magyar}{}
3582 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3583 \DeclareVoidOption{vietnamese}{%
3584   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3585   \Hy@AtEndOfPackage{%
3586     \@ifundefined{T@PU}{}{}%
3587     \input{puvnenc.def}%
3588   }%
3589 }%
3590 }
3591 \DeclareVoidOption{vietnam}{%
3592   \HyLang@addto\extravietnam\HyLang@vietnamese
3593   \Hy@AtEndOfPackage{%
3594     \@ifundefined{T@PU}{}{}%
3595     \input{puvnenc.def}%
3596   }%
3597 }%
3598 }

```

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

```

3599 \DeclareVoidOption{arabic}{%
3600   \Hy@AtEndOfPackage{%
3601     \@ifundefined{T@PU}{}{}%
3602     \input{puarenc.def}%
3603   }%
3604 }%
3605 }

```

## 13 Options to change appearance of links

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

```
3606 \define@key{Hyp}{colorlinks}[true]{%
3607   \Hy@boolkey{colorlinks}{#1}%
3608 }
3609 \DeclareVoidOption{hidelinks}{%
3610   \Hy@colorlinksfalse
3611   \Hy@ocgcolorlinksfalse
3612   \Hy@frenchlinksfalse
3613   \def\Hy@colorlink##1{\begingroup}%
3614   \def\Hy@endcolorlink{\endgroup}%
3615   \def\@pdfborder{0 0 0}%
3616   \let\@pdfborderstyle\ltx@empty
3617 }
3618 \define@key{Hyp}{ocgcolorlinks}[true]{%
3619   \Hy@boolkey{ocgcolorlinks}{#1}%
3620 }
3621 \Hy@AtBeginDocument{%
3622   \begingroup
3623   \ifundefined{OBJ@OCG@view}{%
3624     \ifHy@ocgcolorlinks
3625       \Hy@Warning{%
3626         Driver does not support ‘ocgcolorlinks’,\MessageBreak
3627         using ‘colorlinks’ instead%
3628       }%
3629     \fi
3630   }{%
3631   \endgroup
3632 }
3633 \define@key{Hyp}{frenchlinks}[true]{%
3634   \Hy@boolkey{frenchlinks}{#1}%
3635 }
```

## 14 Bookmarking

```
3636 \begingroup\expandafter\expandafter\expandafter\endgroup
3637 \expandafter\ifx\csname chapter\endcsname\relax
3638   \def\toclevel@part{0}%
3639 \else
3640   \def\toclevel@part{-1}%
3641 \fi
3642 \def\toclevel@chapter{0}
3643 \def\toclevel@section{1}
3644 \def\toclevel@subsection{2}
3645 \def\toclevel@subsubsection{3}
3646 \def\toclevel@paragraph{4}
3647 \def\toclevel@subparagraph{5}
3648 \def\toclevel@figure{0}
3649 \def\toclevel@table{0}
3650 \@ifpackageloaded{listings}{%
3651   \providecommand*\theHlstlisting{\thelstlisting}%
3652   \providecommand*\toclevel@lstlisting{0}%
3653 }{}
3654 \@ifpackageloaded{listing}{%
3655   \providecommand*\theHlisting{\thelisting}%
3656 }
```

```

3656 \providecommand*\toclevel@listing{0}%
3657 }{}

```

```

3658 \define@key{Hyp}{bookmarks}[true]{%
3659   \Hy@boolkey{bookmarks}{#1}%
3660 }

```

```

3661 \define@key{Hyp}{bookmarksopen}[true]{%
3662   \Hy@boolkey{bookmarksopen}{#1}%
3663 }

```

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.

```

3664 \let\Hy@bookmarksdepth\c@tocdepth
3665 \define@key{Hyp}{bookmarksdepth}[]{}%
3666 \begingroup
3667   \edef\x{#1}%
3668   \ifx\x\empty
3669     \global\let\Hy@bookmarksdepth\c@tocdepth
3670   \else
3671     \@ifundefined{toclevel@\x}{%
3672       \@onelevel@sanitize\x
3673       \edef\y{\expandafter\@car\x\@nil}%
3674       \ifcase 0\expandafter\ifx\y-1\fi
3675         \expandafter\ifnum\expandafter'\y>47 %
3676         \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
3677       \Hy@Warning{Unknown document division name (\x)}%
3678     \else
3679       \setbox\z@=\hbox{%
3680         \count@=\x
3681         \xdef\Hy@bookmarksdepth{\the\count@}%
3682       }%
3683     \fi
3684   }{}%
3685   \setbox\z@=\hbox{%
3686     \count@=\csname toclevel@\x\endcsname
3687     \xdef\Hy@bookmarksdepth{\the\count@}%
3688   }%
3689 }%
3690 \fi
3691 \endgroup
3692 }

```

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

```

3693 \define@key{Hyp}{bookmarksopenlevel}{%
3694   \def\@bookmarksopenlevel{#1}%
3695 }
3696 \def\@bookmarksopenlevel{\maxdimen}
3697 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3698 \define@key{Hyp}{bookmarkstype}{%
3699   \def\Hy@bookmarkstype{#1}%

```

```

3700 }
3701 \def\Hy@bookmarkstype{toc}

```

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

```

3702 \define@key{Hyp}{bookmarksnumbered}[true]{%
3703   \Hy@boolkey{bookmarksnumbered}{#1}%
3704 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3705 \define@key{Hyp}{CJKbookmarks}[true]{%
3706   \Hy@boolkey{CJKbookmarks}{#1}%
3707 }

3708 \def\Hy@temp#1{%
3709   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3710 }
3711 \def\Hy@@temp#1#2#3{%
3712   \define@key{Hyp}{#2color}{%
3713     \HyColor@HyperrefColor{##1}#1%
3714   }%
3715   \def#1{#3}%
3716 }
3717 \Hy@temp{link}{red}
3718 \Hy@temp{anchor}{black}
3719 \Hy@temp{cite}{green}
3720 \Hy@temp{file}{cyan}
3721 \Hy@temp{url}{magenta}
3722 \Hy@temp{menu}{red}
3723 \Hy@temp{run}{\@filecolor}
3724 \define@key{Hyp}{pagecolor}{%
3725   \Hy@WarningPageColor
3726 }
3727 \def\Hy@WarningPageColor{%
3728   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3729   \global\let\Hy@WarningPageColor\relax
3730 }
3731 \define@key{Hyp}{allcolors}{%
3732   \HyColor@HyperrefColor{#1}\@linkcolor
3733   \HyColor@HyperrefColor{#1}\@anchorcolor
3734   \HyColor@HyperrefColor{#1}\@citecolor
3735   \HyColor@HyperrefColor{#1}\@filecolor
3736   \HyColor@HyperrefColor{#1}\@urlcolor
3737   \HyColor@HyperrefColor{#1}\@menucolor
3738   \HyColor@HyperrefColor{#1}\@runcolor
3739 }

3740 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3741 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3742 \let\@baseurl\@empty
3743 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3744 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3745 \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.

```

3746 \let\@pdfpagetransition\relax
3747 \define@key{Hyp}{pdfpagetransition}{%
3748   \def\@pdfpagetransition{#1}%
3749 }
```

`\@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.

```

3750 \let\@pdfpageduration\relax
3751 \define@key{Hyp}{pdfpageduration}{%
3752   \def\@pdfpageduration{#1}%
3753   \Hy@Match\@pdfpageduration{%
3754     ^([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3755   }{ }{%
3756     \Hy@Warning{%
3757       Invalid value '\@pdfpageduration'\MessageBreak
3758       of option 'pdfpageduration'\MessageBreak
3759       is replaced by an empty value%
3760     }%
3761     \let\@pdfpageduration\ltx@empty
3762   }%
3763 }
```

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.

```

3764 \newif\ifHy@useHidKey
3765 \Hy@useHidKeyfalse
3766 \define@key{Hyp}{pdfpagehidden}[true]{%
3767   \Hy@boolkey{pdfpagehidden}{#1}%
3768   \ifHy@pdfpagehidden
3769     \global\Hy@useHidKeytrue
3770   \fi
3771 }
```

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).

```

3772 \def\Hy@ColorList{cite,file,link,menu,run,url}
3773 \@for\Hy@temp:=\Hy@ColorList\do{%
3774   \edef\Hy@temp{%
3775     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3776       \noexpand\HyColor@HyperrefBorderColor
3777         {##1}%
3778       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3779       {hyperref}%
3780       {\Hy@temp bordercolor}%
3781     }%
3782   }%
3783   \Hy@temp
```



```

3784 }
3785 \define@key{Hyp}{pagebordercolor}{%
3786   \Hy@WarningPageBorderColor
3787 }
3788 \def\Hy@WarningPageBorderColor{%
3789   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3790   \global\let\Hy@WarningPageBorderColor\relax
3791 }
3792 \define@key{Hyp}{allbordercolors}{%
3793   \def\Hy@temp##1##2{%
3794     \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3795   }%
3796   \Hy@temp\@citebordercolor{cite}%
3797   \Hy@temp\@filebordercolor{file}%
3798   \Hy@temp\@linkbordercolor{link}%
3799   \Hy@temp\@menubordercolor{menu}%
3800   \Hy@temp\@runbordercolor{run}%
3801   \Hy@temp\@urlbordercolor{url}%
3802 }
3803 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3804 \Hy@DefNameKey{pdfhighlight}{%
3805   \do{/I}{Invert}%
3806   \do{/N}{None}%
3807   \do{/O}{Outline}%
3808   \do{/P}{Push}%
3809 }
3810 \define@key{Hyp}{pdfborder}{%
3811   \let\Hy@temp\@pdfborder
3812   \def\@pdfborder{#1}%
3813   \Hy@Match\@pdfborder{%
3814     ~\HyPat@NonNegativeReal/ %
3815     \HyPat@NonNegativeReal/ %
3816     \HyPat@NonNegativeReal/%
3817     ( ?\[ \HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)* ])?$%
3818   }{ }{%
3819     \Hy@Warning{%
3820       Invalid value '\@pdfborder'\MessageBreak
3821       for option 'pdfborder'\MessageBreak
3822       Option setting is ignored%
3823     }%
3824     \let\@pdfborder\Hy@temp
3825   }%
3826 }
3827 \define@key{Hyp}{pdfborderstyle}{%
3828   \let\Hy@temp\@pdfborderstyle
3829   \def\@pdfborderstyle{#1}%
3830   \Hy@Match\@pdfborderstyle{%
3831     ~%
3832     ( */Type */Border%
3833     | */W +\HyPat@NonNegativeReal/%
3834     | */S */[SDBIU]%
3835     | */D *[ ( \HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)? )? ]%
3836     )* *$%
3837   }{ }{%
3838     \Hy@Warning{%
3839       Invalid value '\@pdfborderstyle'\MessageBreak
3840       for option 'pdfborderstyle'\MessageBreak

```

```

3841     Option setting is ignored%
3842 }%
3843 \let\@pdfborderstyle\Hy@temp
3844 }%
3845 }
3846 \def\Hy@setpdfborder{%
3847 \ifx\@pdfborder\@empty
3848 \else
3849 /Border[\@pdfborder]%
3850 \fi
3851 \ifx\@pdfborderstyle\@empty
3852 \else
3853 /BS<<\@pdfborderstyle>>%
3854 \fi
3855 }
3856 \Hy@DefNameKey{pdfpagemode}{%
3857 \do{UseNone}{}%
3858 \do{UseOutlines}{}%
3859 \do{UseThumbs}{}%
3860 \do{FullScreen}{}%
3861 \do{UseOC}{PDF 1.5}%
3862 \do{UseAttachments}{PDF 1.6}%
3863 }
3864 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3865 \do{UseNone}{}%
3866 \do{UseOutlines}{}%
3867 \do{UseThumbs}{}%
3868 \do{FullScreen}{}%
3869 \do{UseOC}{PDF 1.5}%
3870 \do{UseAttachments}{PDF 1.6}%
3871 }
3872 \Hy@DefNameKey{pdfdirection}{%
3873 \do{L2R}{Left to right}%
3874 \do{R2L}{Right to left}%
3875 }
3876 \Hy@DefNameKey{pdfviewarea}{%
3877 \do{MediaBox}{}%
3878 \do{CropBox}{}%
3879 \do{BleedBox}{}%
3880 \do{TrimBox}{}%
3881 \do{ArtBox}{}%
3882 }
3883 \Hy@DefNameKey{pdfviewclip}{%
3884 \do{MediaBox}{}%
3885 \do{CropBox}{}%
3886 \do{BleedBox}{}%
3887 \do{TrimBox}{}%
3888 \do{ArtBox}{}%
3889 }
3890 \Hy@DefNameKey{pdfprintarea}{%
3891 \do{MediaBox}{}%
3892 \do{CropBox}{}%
3893 \do{BleedBox}{}%
3894 \do{TrimBox}{}%
3895 \do{ArtBox}{}%
3896 }
3897 \Hy@DefNameKey{pdfprintclip}{%

```

```

3898 \do{MediaBox}{}%
3899 \do{CropBox}{}%
3900 \do{BleedBox}{}%
3901 \do{TrimBox}{}%
3902 \do{ArtBox}{}%
3903 }
3904 \Hy@DefNameKey{pdfprintscaling}{%
3905 \do{AppDefault}{}%
3906 \do{None}{}%
3907 }
3908 \Hy@DefNameKey{pdfduplex}{%
3909 \do{Simplex}{}%
3910 \do{DuplexFlipShortEdge}{}%
3911 \do{DuplexFlipLongEdge}{}%
3912 }
3913 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3914 \do{true}{}%
3915 \do{false}{}%
3916 }
3917 \define@key{Hyp}{pdfprintpagerange}{%
3918 \def\@pdfprintpagerange{#1}%
3919 }
3920 \Hy@DefNameKey{pdfnumcopies}{%
3921 \do{2}{two copies}%
3922 \do{3}{three copies}%
3923 \do{4}{four copies}%
3924 \do{5}{five copies}%
3925 }
3926 \define@key{Hyp}{pdfusetitle}[true]{%
3927 \Hy@boolkey{pdfusetitle}{#1}%
3928 }
3929 \def\HyXeTeX@CheckUnicode{%
3930 \ifxetex
3931 \ifHy@unicode
3932 \else
3933 \Hy@WarningNoLine{%
3934 XeTeX driver only supports unicode.\MessageBreak
3935 Enabling option 'unicode'%
3936 }%
3937 \kvsetkeys{Hyp}{unicode}%
3938 \fi
3939 \else
3940 \let\HyXeTeX@CheckUnicode\relax
3941 \fi
3942 }
3943 \def\HyPsd@PrerenderUnicode#1{%
3944 \begingroup
3945 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3946 \else
3947 \sbox0{%
3948 \let\GenericInfo\@gobbletwo
3949 \let\GenericWarning\@gobbletwo
3950 \let\GenericError\@gobblefour
3951 \PrerenderUnicode{#1}%
3952 }%
3953 \fi
3954 \endgroup

```

```

3955 }
3956 \define@key{Hyp}{pdftitle}{%
3957   \HyXeTeX@CheckUnicode
3958   \HyPsd@XeTeXBigCharstrue
3959   \HyPsd@PrerenderUnicode{#1}%
3960   \pdfstringdef\@pdftitle{#1}%
3961 }
3962 \define@key{Hyp}{pdfauthor}{%
3963   \HyXeTeX@CheckUnicode
3964   \HyPsd@XeTeXBigCharstrue
3965   \HyPsd@PrerenderUnicode{#1}%
3966   \pdfstringdef\@pdfauthor{#1}%
3967 }
3968 \define@key{Hyp}{pdfproducer}{%
3969   \HyXeTeX@CheckUnicode
3970   \HyPsd@XeTeXBigCharstrue
3971   \HyPsd@PrerenderUnicode{#1}%
3972   \pdfstringdef\@pdfproducer{#1}%
3973   \ifxetex
3974     \Hy@Warning{%
3975       pdfproducer: %
3976       xdvipdfmx will use its own setting\MessageBreak
3977       instead of the value given%
3978     }%
3979   \else
3980     \def\Hy@temp{hdvipdfm}%
3981     \ifx\Hy@driver\Hy@temp
3982       \Hy@Warning{%
3983         pdfproducer: %
3984         dvipdfm(x) will use its own setting\MessageBreak
3985         instead of the value given%
3986       }%
3987     \fi
3988   \fi
3989 }
3990 \define@key{Hyp}{pdfcreator}{%
3991   \HyXeTeX@CheckUnicode
3992   \HyPsd@XeTeXBigCharstrue
3993   \HyPsd@PrerenderUnicode{#1}%
3994   \pdfstringdef\@pdfcreator{#1}%
3995 }
3996 \define@key{Hyp}{pdfcreationdate}{%
3997   \begingroup
3998   \Hy@unicodfalse
3999   \pdfstringdef\@pdfcreationdate{#1}%
4000 \endgroup
4001 }
4002 \define@key{Hyp}{pdfmoddate}{%
4003   \begingroup
4004   \Hy@unicodfalse
4005   \pdfstringdef\@pdfmoddate{#1}%
4006 \endgroup
4007 }
4008 \define@key{Hyp}{pdfsubject}{%
4009   \HyXeTeX@CheckUnicode
4010   \HyPsd@XeTeXBigCharstrue
4011   \HyPsd@PrerenderUnicode{#1}%

```

```

4012 \pdfstringdef\@pdfsubject{#1}%
4013 }
4014 \define@key{Hyp}{pdfkeywords}{%
4015 \HyXeTeX@CheckUnicode
4016 \HyPsd@XeTeXBigCharstrue
4017 \HyPsd@PrerenderUnicode{#1}%
4018 \pdfstringdef\@pdfkeywords{#1}%
4019 }
4020 \define@key{Hyp}{pdftrapped}{%
4021 \lowercase{\edef\Hy@temp{#1}}}%
4022 \ifx\Hy@temp\HyInfo@trapped@true
4023 \def\@pdftrapped{True}%
4024 \else
4025 \ifx\Hy@temp\HyInfo@trapped@false
4026 \def\@pdftrapped{False}%
4027 \else
4028 \ifx\Hy@temp\HyInfo@trapped@unknown
4029 \def\@pdftrapped{Unknown}%
4030 \else
4031 \ifx\Hy@temp\@empty
4032 \else
4033 \Hy@Warning{%
4034 Unsupported value '#1'\MessageBreak
4035 for option 'pdftrapped'%
4036 }%
4037 \fi
4038 \def\@pdftrapped{}%
4039 \fi
4040 \fi
4041 \fi
4042 }
4043 \def\HyInfo@trapped@true{true}
4044 \def\HyInfo@trapped@false{false}
4045 \def\HyInfo@trapped@unknown{unknown}
4046 \def\HyInfo@TrappedUnsupported{%
4047 \ifx\@pdftrapped\@empty
4048 \else
4049 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
4050 \gdef\HyInfo@TrappedUnsupported{}%
4051 \fi
4052 }
4053 \define@key{Hyp}{pdfinfo}{%
4054 \kvsetkeys{pdfinfo}{#1}%
4055 }
4056 \def\Hy@temp#1{%
4057 \lowercase{\Hy@temp@A{#1}}{#1}%
4058 }
4059 \def\Hy@temp@A#1#2{%
4060 \define@key{pdfinfo}{#2}{%
4061 \hypersetup{pdf#1={##1}}}%
4062 }%
4063 }
4064 \Hy@temp{Title}
4065 \Hy@temp{Author}
4066 \Hy@temp{Keywords}
4067 \Hy@temp{Subject}
4068 \Hy@temp{Creator}

```

```

4069 \Hy@temp{Producer}
4070 \Hy@temp{CreationDate}
4071 \Hy@temp{ModDate}
4072 \Hy@temp{Trapped}
4073 \newif\ifHyInfo@AddonUnsupported
4074 \kv@set@family@handler{pdfinfo}{%
4075   \HyInfo@AddonHandler{#1}{#2}%
4076 }
4077 \let\HyInfo@do\relax
4078 \def\HyInfo@AddonHandler#1#2{%
4079   \ifx\kv@value\relax
4080     \Hy@Warning{%
4081       Option 'pdfinfo': ignoring key '\kv@key' without value%
4082     }%
4083   \else
4084     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
4085     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
4086     \expandafter\ifx\curname KV@pdfinfo@\HyInfo@Key\endcurname\relax
4087     \ifHyInfo@AddonUnsupported
4088       \Hy@Warning{%
4089         This driver does not support additional\MessageBreak
4090         information entries, therefore\MessageBreak
4091         '\kv@key' is ignored%
4092       }%
4093     \else
4094       \define@key{pdfinfo}{\HyInfo@Key}{%
4095         \HyXeTeX@CheckUnicode
4096         \HyPsd@XeTeXBigCharstrue
4097         \HyPsd@PrerenderUnicode{##1}%
4098         \pdfstringdef\HyInfo@Value{##1}%
4099         \expandafter\let\curname HyInfo@Value@\HyInfo@Key\endcurname
4100         \HyInfo@Value
4101       }%
4102     \edef\HyInfo@AddonList{%
4103       \HyInfo@AddonList
4104       \HyInfo@do{\HyInfo@Key}%
4105     }%
4106     \kv@parse@normalized{%
4107       \HyInfo@Key={#2}%
4108     }{%
4109       \kv@processor@default{pdfinfo}%
4110     }%
4111     \fi
4112   \else
4113     \kv@parse@normalized{%
4114       \HyInfo@Key={#2}%
4115     }{%
4116       \kv@processor@default{pdfinfo}%
4117     }%
4118     \fi
4119   \fi
4120 }
4121 \def\HyInfo@GenerateAddons{%
4122   \ifHyInfo@AddonUnsupported
4123     \def\HyInfo@Addons{}%
4124   \else
4125     \begingroup

```

```

4126 \toks@{}%
4127 \def\HyInfo@do###1{%
4128 \EdefEscapeName\HyInfo@Key{###1}%
4129 \edef\x{%
4130 \toks@{%
4131 \the\toks@
4132 /\HyInfo@Key(\csname HyInfo@Value@###1\endcsname)%
4133 }%
4134 }%
4135 \x
4136 }%
4137 \HyInfo@AddonList
4138 \edef\x{\endgroup
4139 \def\noexpand\HyInfo@Addons{\the\toks@}%
4140 }%
4141 \x
4142 \fi
4143 }
4144 \let\HyInfo@AddonList\ltx@empty

4145 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
4146 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
4147 \let\setpdfinkmargin@gobble
4148 \def\calculate@pdfview#1 #2\{%
4149 \def\@pdfview{#1}%
4150 \ifx\#2\%
4151 \def\@pdfviewparams{-32768}%
4152 \else
4153 \def\@pdfviewparams{ #2}%
4154 \fi
4155 }
4156 \begingroup\expandafter\expandafter\expandafter\endgroup
4157 \expandafter\ifx\csname numexpr\endcsname\relax
4158 \def\Hy@number#1{%
4159 \expandafter\@firstofone\expandafter{\number#1}%
4160 }%
4161 \else
4162 \def\Hy@number#1{%
4163 \the\numexpr#1\relax
4164 }%
4165 \fi
4166 \define@key{Hyp}{pdfstartpage}{%
4167 \ifx\#1\%
4168 \let\@pdfstartpage\ltx@empty
4169 \else
4170 \edef\@pdfstartpage{\Hy@number{#1}}%
4171 \fi
4172 }%
4173 \define@key{Hyp}{pdfstartview}{%
4174 \ifx\#1\%
4175 \let\@pdfstartview\ltx@empty
4176 \else
4177 \hypercalcbpdef\@pdfstartview{/#1}%
4178 \fi
4179 }
4180 \def\HyPat@NonNegativeReal/{%
4181 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
4182 }

```

```

4183 \define@key{Hyp}{pdfremotestartview}{%
4184   \ifx\#1\%
4185     \def\@pdfremotestartview{/Fit}%
4186   \else
4187     \hypercalcbpdef\@pdfremotestartview{#1}%
4188     \edef\@pdfremotestartview{\@pdfremotestartview}%
4189     \Hy@Match\@pdfremotestartview{%
4190       ^{XYZ -?(null|\HyPat@NonNegativeReal/) %
4191         -(null|\HyPat@NonNegativeReal/) %
4192         (null|\HyPat@NonNegativeReal/)|%
4193         Fit(|B| %
4194           (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
4195           R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
4196           \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
4197         )}$%
4198     }{}{%
4199       \Hy@Warning{%
4200         Invalid value '\@pdfremotestartview'\MessageBreak
4201         of 'pdfremotestartview'\MessageBreak
4202         is replaced by 'Fit'%
4203       }%
4204       \let\@pdfremotestartview\@empty
4205     }%
4206     \ifx\@pdfremotestartview\@empty
4207       \def\@pdfremotestartview{/Fit}%
4208     \else
4209       \edef\@pdfremotestartview{/ \@pdfremotestartview}%
4210     \fi
4211   \fi
4212 }
4213 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
4214 \define@key{Hyp}{pdftoolbar}[true]{%
4215   \Hy@boolkey{pdftoolbar}{#1}%
4216 }
4217 \define@key{Hyp}{pdfmenubar}[true]{%
4218   \Hy@boolkey{pdfmenubar}{#1}%
4219 }
4220 \define@key{Hyp}{pdfwindowui}[true]{%
4221   \Hy@boolkey{pdfwindowui}{#1}%
4222 }
4223 \define@key{Hyp}{pdffitwindow}[true]{%
4224   \Hy@boolkey{pdffitwindow}{#1}%
4225 }
4226 \define@key{Hyp}{pdfcenterwindow}[true]{%
4227   \Hy@boolkey{pdfcenterwindow}{#1}%
4228 }
4229 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
4230   \Hy@boolkey{pdfdisplaydoctitle}{#1}%
4231 }
4232 \define@key{Hyp}{pdfa}[true]{%
4233   \Hy@boolkey{pdfa}{#1}%
4234 }
4235 \define@key{Hyp}{pdfnewwindow}[true]{%
4236   \def\Hy@temp{#1}%
4237   \ifx\Hy@temp\@empty
4238     \Hy@pdfnewwindowsetfalse
4239   \else

```



```

4240 \Hy@pdfnewwindowsettrue
4241 \Hy@boolkey{pdfnewwindow}{#1}%
4242 \fi
4243 }
4244 \def\Hy@SetNewWindow{%
4245 \ifHy@pdfnewwindowset
4246 /NewWindow %
4247 \ifHy@pdfnewwindow true\else false\fi
4248 \fi
4249 }
4250 \Hy@DefNameKey{pdfpagelayout}{%
4251 \do{SinglePage}{}%
4252 \do{OneColumn}{}%
4253 \do{TwoColumnLeft}{}%
4254 \do{TwoColumnRight}{}%
4255 \do{TwoPageLeft}{PDF 1.5}%
4256 \do{TwoPageRight}{PDF 1.5}%
4257 }
4258 \define@key{Hyp}{pdflang}{%
4259 \def\@pdflang{#1}%
4260 }
4261 \define@key{Hyp}{pdfpagelabels}[true]{%
4262 \Hy@boolkey{pdfpagelabels}{#1}%
4263 }
4264 \define@key{Hyp}{pdfescapeform}[true]{%
4265 \Hy@boolkey{pdfescapeform}{#1}%
4266 }

```

Default values:

```

4267 \def\@linkbordercolor{1 0 0}
4268 \def\@urlbordercolor{0 1 1}
4269 \def\@menubordercolor{1 0 0}
4270 \def\@filebordercolor{0 .5 .5}
4271 \def\@runbordercolor{0 .7 .7}
4272 \def\@citebordercolor{0 1 0}
4273 \def\@pdfhighlight{/I}
4274 \let\@pdftitle\ltx@empty
4275 \let\@pdfauthor\ltx@empty
4276 \let\@pdfproducer\relax
4277 \def\@pdfcreator{LaTeX with hyperref package}
4278 \let\@pdfcreationdate\ltx@empty
4279 \let\@pdfmoddate\ltx@empty
4280 \let\@pdfsubject\ltx@empty
4281 \let\@pdfkeywords\ltx@empty
4282 \let\@pdftrapped\ltx@empty
4283 \let\@pdfpagescrop\ltx@empty
4284 \def\@pdfstartview{/Fit}
4285 \def\@pdfremotestartview{/Fit}
4286 \def\@pdfstartpage{1}
4287 \let\@pdfprintpagerange\ltx@empty
4288 \let\@pdflang\ltx@empty
4289 \let\PDF@SetupDoc\@empty
4290 \let\PDF@FinishDoc\@empty
4291 \let\phantomsection\@empty
4292 \let\special@paper\@empty
4293 \def\HyperDestNameFilter#1{#1}
4294 \Hy@AtBeginDocument{%
4295 \begingroup

```

```

4296 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4297 \dimen@=\x\relax
4298 \ifdim\dimen@>\z@
4299 \else
4300 \dimen@=11in\relax
4301 \Hy@WarningNoLine{%
4302   Height of page (\expandafter\string\x) %
4303   is invalid (\the\x),\MessageBreak
4304   using 11in%
4305 }%
4306 \fi
4307 \dimen@=0.99626401\dimen@
4308 \xdef\Hy@pageheight{\strip@pt\dimen@}%
4309 \endgroup
4310 }
4311 \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.

```

4312 \let\hyper@normalise\ExecuteOptions
4313 \let\ExecuteOptions\hypersetup
4314 \Hy@RestoreCatcodes
4315 \InputIfFileExists{hyperref.cfg}{-}{-}
4316 \Hy@SetCatcodes
4317 \let\ExecuteOptions\hyper@normalise
4318 \ifx\Hy@MaybeStopNow\relax
4319 \else
4320 \Hy@stoppedearlytrue
4321 \expandafter\Hy@MaybeStopNow
4322 \fi
4323 \Hy@stoppedearlyfalse

```

To add flexibility, we will not use the ordinary processing of package options, but put them through the *keyval* package. This section was written by David Carlisle.

```

4324 \SetupKeyvalOptions{family=Hyp}
4325 \DeclareLocalOptions{%
4326   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4327 }

```

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

```

4328 \@ifpackageloaded{tex4ht}{%
4329   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
4330   \PassOptionsToPackage{tex4ht}{hyperref}%
4331 }%
4332 }{-}

4333 \let\ReadBookmarks\relax
4334 \ProcessKeyvalOptions{Hyp}

```

After processing options.

## 15.1 Package `xspace` support

```

4335 \def\Hy@xspace@end{}
4336 \ltx@ifundefined{xspaceaddexceptions}{%
4337   \Hy@AtBeginDocument{%
4338     \ltx@ifundefined{xspaceaddexceptions}{%
4339       }%

```

```

4340 \def\Hy@xspace@end{%
4341 \ltx@gobble{end for xspace}%
4342 }%
4343 \xspaceaddexceptions{%
4344 \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4345 }%
4346 }%
4347 }%
4348 }{%
4349 \def\Hy@xspace@end{%
4350 \ltx@gobble{end for xspace}%
4351 }%
4352 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4353 }

```

## 15.2 Option draft

```

4354 \Hy@AtBeginDocument{%
4355 \ifHy@draft
4356 \let\hyper@@anchor\@gobble
4357 \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4358 \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4359 \def\hyper@anchorend{\Hy@xspace@end}%
4360 \let\hyper@linkstart\@gobbletwo
4361 \def\hyper@linkend{\Hy@xspace@end}%
4362 \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4363 \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4364 \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4365 \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4366 \let\PDF@SetupDoc\@empty
4367 \let\PDF@FinishDoc\@empty
4368 \let\@fifthoffive\@secondoftwo
4369 \let\@secondoffive\@secondoftwo
4370 \let\ReadBookmarks\relax
4371 \let\WriteBookmarks\relax
4372 \Hy@WarningNoLine{Draft mode on}%
4373 \fi
4374 \Hy@DisableOption{draft}%
4375 \Hy@DisableOption{nolinks}%
4376 \Hy@DisableOption{final}%
4377 }

```

## 15.3 PDF/A

```

4378 \Hy@DisableOption{pdfa}
4379 \ifHy@pdfa
4380 \kvsetkeys{Hyp}{pdfversion=1.4}%
4381 \Hy@DisableOption{pdfversion}%
4382 \def\Hy@Acrobatmenu#1#2{%
4383 \leavevmode
4384 \begingroup
4385 \edef\x{#1}%
4386 \@onelevel@sanitize\x
4387 \ifx\x\Hy@NextPage
4388 \let\y=Y%
4389 \else
4390 \ifx\x\Hy@PrevPage
4391 \let\y=Y%
4392 \else

```

```

4393     \ifx\x\Hy@FirstPage
4394     \let\y=Y%
4395     \else
4396     \ifx\x\Hy@LastPage
4397     \let\y=Y%
4398     \else
4399     \let\y=N%
4400     \fi
4401   \fi
4402 \fi
4403 \fi
4404 \expandafter\endgroup
4405 \ifx\y Y%
4406 \else
4407   \Hy@Error{%
4408     PDF/A: Named action ‘#1’ is not permitted%
4409   }\@ehc
4410   {#2}%
4411   \expandafter\@gobble
4412 \fi
4413 }%
4414 \def\Hy@temp#1{%
4415   \expandafter\def\csname Hy@#1\endcsname{#1}%
4416   \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4417 }%
4418 \Hy@temp{NextPage}%
4419 \Hy@temp{PrevPage}%
4420 \Hy@temp{FirstPage}%
4421 \Hy@temp{LastPage}%
4422 \else
4423   \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4424 \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.

```

4425 \Hy@nextfalse
4426 \ltx@ifundefined{spanish@sh@}{\Hy@nexttrue}
4427 \ltx@ifundefined{galician@sh@}{\Hy@nexttrue}
4428 \ltx@ifundefined{estonian@sh@}{\Hy@nexttrue}
4429 \ifHy@next
4430   \let\texttilde\~%
4431 \fi

4432 \def\Hy@wrapper@babel#1#2{%
4433   \begingroup
4434     \Hy@safe@activetrue
4435     \set@display@protect
4436     \edef\x{#2}%
4437     \@onelevel@sanitize\x
4438     \toks@{#1}%
4439     \edef\x{\endgroup\the\toks@{x}}%
4440   \x
4441 }
4442 \def\Hy@WrapperDef#1{%
4443   \begingroup

```

```

4444 \escapechar=\m@ne
4445 \xdef\Hy@gtemp{%
4446 \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4447 }%
4448 \endgroup
4449 \edef#1{%
4450 \noexpand\Hy@wrapper@babel
4451 \expandafter\noexpand\Hy@gtemp
4452 }%
4453 \expandafter\def\Hy@gtemp
4454 }

4455 \ifHy@hyperfigures
4456 \Hy@Info{Hyper figures ON}%
4457 \else
4458 \Hy@Info{Hyper figures OFF}%
4459 \fi
4460 \ifHy@nesting
4461 \Hy@Info{Link nesting ON}%
4462 \else
4463 \Hy@Info{Link nesting OFF}%
4464 \fi
4465 \ifHy@hyperindex
4466 \Hy@Info{Hyper index ON}%
4467 \else
4468 \Hy@Info{Hyper index OFF}%
4469 \fi
4470 \ifHy@plainpages
4471 \Hy@Info{Plain pages ON}%
4472 \else
4473 \Hy@Info{Plain pages OFF}%
4474 \fi
4475 \ifHy@backref
4476 \Hy@Info{Backreferencing ON}%
4477 \else
4478 \Hy@Info{Backreferencing OFF}%
4479 \fi
4480 \ifHy@typexml
4481 \Hy@AtEndOfPackage{%
4482 \RequirePackage{color}%
4483 \RequirePackage{nameref}[2012/07/28]%
4484 }%
4485 \fi
4486 \Hy@DisableOption{typexml}
4487 \ifHy@implicit
4488 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4489 \else
4490 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4491 \def\MaybeStopEarly{%
4492 \Hy@Message{Stopped early}%
4493 \Hy@AtBeginDocument{%
4494 \PDF@FinishDoc
4495 \gdef\PDF@FinishDoc{}}%
4496 }%
4497 \endinput
4498 }%
4499 \Hy@AtBeginDocument{%
4500 \let\autoref\ref

```

```

4501 \let\autopageref\pageref
4502 \ifx\@pdfpagemode\@empty
4503 \gdef\@pdfpagemode{UseNone}%
4504 \fi
4505 \global\Hy@backreffalse
4506 }%
4507 \Hy@AtEndOfPackage{%
4508 \global\let\ReadBookmarks\relax
4509 \global\let\WriteBookmarks\relax
4510 }%
4511 \fi
4512 \Hy@DisableOption{implicit}

```

### 15.4.1 Driver loading

```

4513 \Hy@AtEndOfPackage{%
4514 \@ifpackageloaded{tex4ht}{%
4515 \def\Hy@driver{htex4ht}%
4516 \Hy@texhttrue
4517 }{}%

```

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.

```

4518 \ifx\Hy@driver\@empty
4519 \else
4520 \def\Hy@temp{hpdftex}%
4521 \ifpdf
4522 \ifx\Hy@driver\Hy@temp
4523 \else
4524 \Hy@WarningNoLine{%
4525 Wrong driver ‘\Hy@driver.def’;\MessageBreak
4526 pdfTeX is running in PDF mode.\MessageBreak
4527 Forcing driver ‘\Hy@temp.def’%
4528 }%
4529 \let\Hy@driver\Hy@temp
4530 \fi
4531 \else
4532 \ifx\Hy@driver\Hy@temp
4533 \Hy@WarningNoLine{%
4534 Wrong driver ‘\Hy@driver.def’;\MessageBreak
4535 pdfTeX is not running in PDF mode.\MessageBreak
4536 Using default driver%
4537 }%
4538 \let\Hy@driver\@empty
4539 \fi
4540 \fi
4541 \fi
4542 \ifHy@texht
4543 \else
4544 \ifx\Hy@driver\@empty
4545 \else
4546 \def\Hy@temp{hxdetex}%
4547 \ifxdetex
4548 \ifx\Hy@driver\Hy@temp
4549 \else
4550 \Hy@WarningNoLine{%
4551 Wrong driver ‘\Hy@driver.def’;\MessageBreak
4552 XeTeX is running.\MessageBreak

```

```

4553         Forcing driver ‘\Hy@temp.def’ for XeTeX%
4554     }%
4555     \let\Hy@driver\Hy@temp
4556 \fi
4557 \fi
4558 \fi
4559 \fi
4560 \ifx\Hy@driver\@empty
4561 \else
4562     \def\Hy@temp{hvtexhtm}%
4563     \ifvtexhtml
4564         \ifx\Hy@driver\Hy@temp
4565         \else
4566             \Hy@WarningNoLine{%
4567                 Wrong driver ‘\Hy@driver.def’;\MessageBreak
4568                 VTeX is running in HTML mode.\MessageBreak
4569                 Forcing driver ‘\Hy@temp.def’%
4570             }%
4571             \let\Hy@driver\Hy@temp
4572         \fi
4573     \else
4574         \ifx\Hy@driver\Hy@temp
4575         \Hy@WarningNoLine{%
4576             Wrong driver ‘\Hy@driver.def’;\MessageBreak
4577             VTeX is not running in HTML mode.\MessageBreak
4578             Using default driver%
4579         }%
4580         \let\Hy@driver\@empty
4581     \fi
4582 \fi
4583 \fi

```

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

```

4584 \let\HyOpt@DriverType\ltx@empty
4585 \ifx\HyOpt@CustomDriver\ltx@empty
4586     \ifx\Hy@driver\@empty
4587         \def\HyOpt@DriverType{ (autodetected)}%
4588         \providecommand*{\Hy@defaultdriver}{hypertex}%
4589         \ifpdf
4590             \def\Hy@driver{hpdfTEX}%
4591         \else
4592             \ifxetex
4593                 \def\Hy@driver{hxetex}%
4594             \else
4595                 \ifvtexhtml
4596                     \def\Hy@driver{hvtexhtm}%
4597                 \def\MaybeStopEarly{%
4598                     \Hy@Message{Stopped early}%
4599                     \Hy@AtBeginDocument{%
4600                         \PDF@FinishDoc
4601                         \gdef\PDF@FinishDoc{}}%
4602                     }%
4603                 \endinput
4604             }%
4605         \else
4606             \ifvtexpdf
4607                 \def\Hy@driver{hvtex}%
4608             \else

```

```

4609         \ifvtexps
4610         \def\Hy@driver{hvtex}%
4611     \else
4612         \ifx\HyOpt@DriverFallback\ltx@empty
4613         \let\Hy@driver\Hy@defaultdriver
4614         \def\HyOpt@DriverType{ (default)}%
4615     \else
4616         \begingroup
4617         \toks@{\expandafter{\HyOpt@DriverFallback}%
4618         \edef\x{\endgroup
4619         \noexpand\kvsetkeys{Hyp}{\the\toks@}%
4620         }%
4621         \x
4622         \ifx\Hy@driver\ltx@empty
4623         \let\Hy@driver\Hy@defaultdriver
4624         \def\HyOpt@DriverType{ (default)}%
4625     \else
4626         \def\HyOpt@DriverType{ (fallback)}%
4627     \fi
4628 \fi
4629 \fi
4630 \fi
4631 \fi
4632 \fi
4633 \fi
4634 \ifx\Hy@driver\Hy@defaultdriver
4635 \def\Hy@temp{hdvwind}%
4636 \ifx\Hy@temp\Hy@driver
4637 \kvsetkeys{Hyp}{colorlinks}%
4638 \PassOptionsToPackage{dviwindo}{color}%
4639 \fi
4640 \fi
4641 \fi
4642 \else
4643 \def\HyOpt@DriverType{ (custom)}%
4644 \let\Hy@driver\HyOpt@CustomDriver
4645 \fi
4646 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4647 \chardef\Hy@VersionChecked=0 %
4648 \input{\Hy@driver.def}%
4649 \ifcase\Hy@VersionChecked
4650 \Hy@VersionCheck{\Hy@driver.def}%
4651 \fi
4652 \let\@unprocessedoptions\relax
4653 \Hy@RestoreCatcodes
4654 \Hy@DisableOption{tex4ht}%
4655 \Hy@DisableOption{pdftex}%
4656 \Hy@DisableOption{nativepdf}%
4657 \Hy@DisableOption{dvipdfm}%
4658 \Hy@DisableOption{dvipdfmx}%
4659 \Hy@DisableOption{dvipdfmx-outline-open}%
4660 \Hy@DisableOption{pdfmark}%
4661 \Hy@DisableOption{dvips}%
4662 \Hy@DisableOption{hypertex}%
4663 \Hy@DisableOption{vtex}%
4664 \Hy@DisableOption{vtexpdfmark}%
4665 \Hy@DisableOption{dviwindo}%

```



```

4666 \Hy@DisableOption{dvipsone}%
4667 \Hy@DisableOption{textures}%
4668 \Hy@DisableOption{latex2html}%
4669 \Hy@DisableOption{ps2pdf}%
4670 \Hy@DisableOption{xetex}%
4671 \Hy@DisableOption{driverfallback}%
4672 \Hy@DisableOption{customdriver}%
4673 \Hy@DisableOption{pdfversion}%
4674 }

```

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.

```

4675 \newif\ifHy@DvipdfmxOutlineOpen
4676 \ifxetex
4677   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4678   \else
4679     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4680     \Hy@DvipdfmxOutlineOpenttrue
4681   \fi
4682 \fi
4683 \begingroup\expandafter\expandafter\expandafter\endgroup
4684 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4685 \else
4686   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4687     \Hy@DvipdfmxOutlineOpenttrue
4688   \fi
4689 \fi

```

#### 15.4.2 Bookmarks

```

4690 \def\WriteBookmarks{0}
4691 \def\@bookmarkopenstatus#1{%
4692   \ifHy@bookmarksopen

```

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

```

4693   \ifnum#1<\expandafter\@firstofone\expandafter
4694     {\number\@bookmarkopenlevel} % explicit space
4695   \else
4696     -%
4697   \fi
4698 \else
4699   -%
4700 \fi
4701 }
4702 \ifHy@bookmarks
4703   \Hy@Info{Bookmarks ON}%
4704   \ifx\@pdfpagemode\@empty
4705     \def\@pdfpagemode{UseOutlines}%
4706   \fi
4707 \else
4708   \let\@bookmarkopenstatus\ltx@gobble
4709   \Hy@Info{Bookmarks OFF}%
4710   \Hy@AtEndOfPackage{%
4711     \global\let\ReadBookmarks\relax
4712     \global\let\WriteBookmarks\relax
4713   }%
4714   \ifx\@pdfpagemode\@empty

```

```

4715 \def\@pdfpagemode{UseNone}%
4716 \fi
4717 \fi
4718 \Hy@DisableOption{bookmarks}

Add wrapper for setting standard catcodes (babel's shorthands).
4719 \def\Hy@CatcodeWrapper#1{%
4720 \let\Hy@EndWrap\ltx@empty
4721 \def\TMP@EnsureCode##1##2{%
4722 \edef\Hy@EndWrap{%
4723 \Hy@EndWrap
4724 \catcode##1 \the\catcode##1\relax
4725 }%
4726 \catcode##1 ##2\relax
4727 }%
4728 \TMP@EnsureCode{10}{12}% ^^J
4729 \TMP@EnsureCode{33}{12}% !
4730 \TMP@EnsureCode{34}{12}% "
4731 \TMP@EnsureCode{36}{3}% $ (math)
4732 \TMP@EnsureCode{38}{4}% & (alignment)
4733 \TMP@EnsureCode{39}{12}% '
4734 \TMP@EnsureCode{40}{12}% (
4735 \TMP@EnsureCode{41}{12}% )
4736 \TMP@EnsureCode{42}{12}% *
4737 \TMP@EnsureCode{43}{12}% +
4738 \TMP@EnsureCode{44}{12}% ,
4739 \TMP@EnsureCode{45}{12}% -
4740 \TMP@EnsureCode{46}{12}% .
4741 \TMP@EnsureCode{47}{12}% /
4742 \TMP@EnsureCode{58}{12}% :
4743 \TMP@EnsureCode{59}{12}% ;
4744 \TMP@EnsureCode{60}{12}% <
4745 \TMP@EnsureCode{61}{12}% =
4746 \TMP@EnsureCode{62}{12}% >
4747 \TMP@EnsureCode{63}{12}% ?
4748 \TMP@EnsureCode{91}{12}% [
4749 \TMP@EnsureCode{93}{12}% ]
4750 \TMP@EnsureCode{94}{7}% ^ (superscript)
4751 \TMP@EnsureCode{95}{8}% _ (subscript)
4752 \TMP@EnsureCode{96}{12}% '
4753 \TMP@EnsureCode{124}{12}% |
4754 \TMP@EnsureCode{126}{13}% ~ (active)
4755 #1\relax
4756 \Hy@EndWrap
4757 }

```

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

```

4758 \Hy@AtBeginDocument{%
4759 \ifHy@ocgcolorlinks
4760 \kvsetkeys{Hyp}{colorlinks}%
4761 \ifHy@pdfa
4762 \Hy@Warning{%
4763 PDF/A: Optional Content Groups are prohibited,\MessageBreak
4764 using 'colorlinks' instead of 'ocgcolorlinks'%
4765 }%
4766 \Hy@ocgcolorlinksfalse
4767 \fi
4768 \fi

```

```

4769 \ifHy@ocgcolorlinks
4770 \else
4771   \Hy@DisableOption{ocgcolorlinks}%
4772 \fi
4773 \ifHy@colorlinks
4774   \def\@pdfborder{0 0 0}%
4775   \let\@pdfborderstyle\@empty
4776   \ifHy@typexml
4777   \else
4778     \Hy@CatcodeWrapper{%
4779       \RequirePackage{color}%
4780     }%
4781   \fi
4782   \def\Hy@colorlink#1{%
4783     \begingroup
4784     \HyColor@UseColor#1%
4785   }%
4786   \def\Hy@endcolorlink{\endgroup}%
4787   \Hy@Info{Link coloring ON}%
4788 \else
4789   \ifHy@frenchlinks
4790     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4791     \def\Hy@endcolorlink{\endgroup}%
4792     \Hy@Info{French linking ON}%
4793   \else
4794     \def\Hy@colorlink#1{\begingroup}%
4795     \def\Hy@endcolorlink{\endgroup}%
4796     \Hy@Info{Link coloring OFF}%
4797   \fi
4798 \fi
4799 \Hy@DisableOption{colorlinks}%
4800 \Hy@DisableOption{frenchlinks}%
4801 \ifHy@texht
4802   \long\def\@firstoffive#1#2#3#4#5{#1}%
4803   \long\def\@secondoffive#1#2#3#4#5{#2}%
4804   \long\def\@thirdoffive#1#2#3#4#5{#3}%
4805   \long\def\@fourthoffive#1#2#3#4#5{#4}%
4806   \long\def\@fifthoffive#1#2#3#4#5{#5}%
4807   \providecommand*\@safe@activetrue{}%
4808   \providecommand*\@safe@activesfalse{}%
4809   \def\T@ref#1{%
4810     \Hy@safe@activetrue
4811     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4812     \Hy@safe@activesfalse
4813   }%
4814   \def\T@pageref#1{%
4815     \Hy@safe@activetrue
4816     \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4817     \Hy@safe@activesfalse
4818   }%
4819 \else
4820   \ifHy@typexml
4821   \else
4822     \Hy@CatcodeWrapper{%
4823       \RequirePackage{nameref}[2012/07/28]%
4824     }%

```

```

4825 \fi
4826 \fi
4827 \DeclareRobustCommand\ref{%
4828 \ifstar\@refstar\T@ref
4829 }%
4830 \DeclareRobustCommand\pageref{%
4831 \ifstar\@pagerefstar\T@pageref
4832 }%
4833 % \ifclassloaded{memoir}{%
4834 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4835 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4836 % }%
4837 % }\ltx@secondoftwo
4838 % {%
4839 % \DeclareRobustCommand*{\nameref}{%
4840 % \ifstar\@mem@titlerefno link\@mem@titleref
4841 % }%
4842 % }{%
4843 \DeclareRobustCommand*{\nameref}{%
4844 \ifstar\@namerefstar\T@nameref
4845 }%
4846 % }%
4847 }
4848 \Hy@AtBeginDocument{%
4849 \ifHy@texht
4850 \else
4851 \Hy@CatcodeWrapper\ReadBookmarks
4852 \fi
4853 }
4854 \ifHy@backref
4855 \RequirePackage{backref}%
4856 \else
4857 \let\Hy@backout\@gobble
4858 \fi
4859 \Hy@DisableOption{backref}
4860 \Hy@DisableOption{pagebackref}
4861 \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`.

```

4862 \begingroup
4863 \endlinechar=-1 %
4864 \catcode'\^^A=14 %
4865 \catcode'\^^M\active
4866 \catcode'\%\active
4867 \catcode'\#\active
4868 \catcode'\_\active
4869 \catcode'\$\active
4870 \catcode'\&\active

```

```

4871 \gdef\hyper@normalise{^^A
4872 \begingroup
4873 \catcode'\^^M\active
4874 \def^^M{ }^^A
4875 \catcode'\%\active
4876 \let%\@percentchar
4877 \let%\@percentchar
4878 \catcode'\#\active
4879 \def#{\hyper@hash}^^A
4880 \def\#{\hyper@hash}^^A
4881 \@makeother\&^^A
4882 \edef&{\string&}^^A
4883 \edef&{\string&}^^A
4884 \edef\textunderscore{\string_}^^A
4885 \let_\textunderscore
4886 \catcode'\_\active
4887 \let_\textunderscore
4888 \let~\hyper@tilde
4889 \let~\hyper@tilde
4890 \let\textasciitilde\hyper@tilde
4891 \let\\\@backslashchar
4892 \edef$\string$}^^A
4893 \Hy@safe@activestrue
4894 \hyper@n@rmalise
4895 }^^A
4896 \catcode'\#=6 ^^A
4897 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4898 \gdef\hyper@n@rmalise#1#2{^^A
4899 \def\Hy@tempa{#2}^^A
4900 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4901 \ltx@ReturnAfterElseFi{^^A
4902 \hyper@@normalise{#1}^^A
4903 }^^A
4904 \else
4905 \ltx@ReturnAfterFi{^^A
4906 \hyper@@normalise{#1}{#2}^^A
4907 }^^A
4908 \fi
4909 }^^A
4910 \gdef\hyper@@normalise#1#2{^^A
4911 \edef\Hy@tempa{^^A
4912 \endgroup
4913 \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
4914 }^^A
4915 \Hy@tempa
4916 }^^A
4917 \gdef\Hy@RemovePercentCr#1%\^^M#2\@nil{^^A
4918 #1^^A
4919 \ifx\limits#2\limits
4920 \else
4921 \ltx@ReturnAfterFi{^^A
4922 \Hy@RemovePercentCr #2\@nil
4923 }^^A
4924 \fi
4925 }^^A
4926 \endgroup
4927 \providecommand*\hyper@chars{%

```

```

4928 \let\#\hyper@hash
4929 \let\%\@percentchar
4930 \Hy@safe@activetrue
4931 }

4932 \def\hyperlink#1#2{%
4933 \hyper@@link{}\{#1\}{#2}%
4934 }

4935 \def\Hy@VerboseLinkStart#1#2{%
4936 \ifHy@verbose
4937 \begingroup
4938 \Hy@safe@activetrue
4939 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4940 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4941 \xdef\Hy@VerboseGlobalTemp{%
4942 \Hy@VerboseGlobalTemp, %
4943 line \the\inputlineno
4944 }%
4945 \endgroup
4946 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4947 \@onelevel@sanitize\Hy@VerboseLinkInfo
4948 \fi
4949 }

4950 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4951 \def\Hy@VerboseLinkStop{%
4952 \ifHy@verbose
4953 \begingroup
4954 \edef\x{\endgroup
4955 \write\mOne{%
4956 Package 'hyperref' Info: %
4957 End of reference \Hy@VerboseLinkInfo.%
4958 }%
4959 }%
4960 \x
4961 \fi
4962 }

4963 \def\Hy@VerboseAnchor#1{%
4964 \ifHy@verbose
4965 \begingroup
4966 \Hy@safe@activetrue
4967 \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4968 \endgroup
4969 \fi
4970 }

4971 \def\Hy@AllowHyphens{%
4972 \relax
4973 \ifhmode
4974 \penalty\@M
4975 \hskip\z@skip
4976 \fi
4977 }

4978 \DeclareRobustCommand*\href[1][]{%
4979 \begingroup
4980 \setkeys{href}{#1}%
4981 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4982 }

```

```

4983 \def\Hy@href#{%
4984   \hyper@normalise\href@
4985 }
4986 \begingroup
4987   \catcode'\$=6 %
4988   \catcode'\#=12 %
4989   \gdef\href@#1{\expandafter\href@split$1##\}%
4990   \gdef\href@split$1##$2##$3\\$4{%
4991     \hyper@@link{$1}{$2}{$3}{$4}%
4992   }
4993 }%
4994 \endgroup

```

Option ‘page’.

```

4995 \define@key{href}{page}{%
4996   \def\Hy@href@page{#1}%
4997 }
4998 \let\Hy@href@page\@empty
4999 \newcount\c@Hy@tempcnt
5000 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
5001 \def\Hy@MakeRemoteAction{%
5002   \ifx\Hy@href@page\@empty
5003     \def\Hy@href@page{0}%
5004   \else
5005     \setcounter{Hy@tempcnt}{\Hy@href@page}%
5006     \ifnum\c@Hy@tempcnt<\@ne
5007       \Hy@Warning{%
5008         Invalid page number (\theHy@tempcnt)\MessageBreak
5009         for remote PDF file.\MessageBreak
5010         Using page 1%
5011       }%
5012       \def\Hy@href@page{0}%
5013     \else
5014       \global\advance\c@Hy@tempcnt\m@ne
5015       \edef\Hy@href@page{\theHy@tempcnt}%
5016     \fi
5017   \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.

```

5018   \ifx\Hy@href@nextactionraw\@empty
5019   \else
5020     \Hy@pdfnewwindowsettrue
5021     \Hy@pdfnewwindowtrue
5022   \fi
5023 }

```

Option ‘pdfremotestartview’.

```

5024 \define@key{href}{pdfremotestartview}{%
5025   \setkeys{Hyp}{pdfremotestartview={#1}}%
5026 }

```

Option ‘pdfnewwindow’.

```

5027 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
5028 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

5029 \newif\ifHy@href@ismap
5030 \define@key{href}{ismap}[true]{%

```

```

5031 \ltx@ifundefined{Hy@href@ismap#1}{%
5032   \Hy@Error{%
5033     Invalid value (#1) for key 'ismap'.\MessageBreak
5034     Permitted values are 'true' or 'false'.\MessageBreak
5035     Ignoring 'ismap'%
5036   } \@ehc
5037 }{%
5038   \csname Hy@href@ismap#1\endcsname
5039 }%
5040 }

```

Option ‘nextactionraw’.

```

5041 \let\Hy@href@nextactionraw\@empty
5042 \define@key{href}{nextactionraw}{%
5043   \edef\Hy@href@nextactionraw{#1}%
5044   \ifx\Hy@href@nextactionraw\@empty
5045   \else
5046     \Hy@Match\Hy@href@nextactionraw{%
5047       ^(\HyPat@ObjRef/|<.*[/S[/].+>>|
5048       \[( ?\HyPat@ObjRef/|<.*[/S[/].+>>)+ ?)]$%
5049     }{%
5050       \Hy@Warning{Invalid value for 'nextactionraw':\MessageBreak
5051         \Hy@href@nextactionraw\MessageBreak
5052         The action is discarded%
5053       }%
5054     }%
5055   \ifx\Hy@href@nextactionraw\@empty
5056   \else
5057     \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
5058   \fi
5059 \fi
5060 }
5061 \def\HyPat@ObjRef/{.+}

```

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

```

5062 \RequirePackage{url}
5063 \let\HyOrg@url\url
5064 \def\Hurl{\begingroup \Url}
5065 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
5066 \def\nolinkurl@#1{\Hurl{#1}}
5067 \DeclareRobustCommand*\url{\hyper@normalise:url@}
5068 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

5069 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
5070 \providecommand\hyper@image[2]{#2}

5071 \def\hypertarget#1#2{%
5072   \ifHy@nesting
5073     \hyper@@anchor{#1}{#2}%
5074   \else
5075     \hyper@@anchor{#1}{\relax}#2%
5076   \fi
5077 }

```

`\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.

```

5078 \DeclareRobustCommand*{\hyperref}{%
5079   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
5080 }
5081 \def\Hy@babelnormalise#1[#2]{%
5082   \begingroup
5083     \Hy@safe@activetrue
5084     \edef\Hy@tempa{%
5085       \endgroup
5086       \noexpand#1[{#2}]%
5087     }%
5088   \Hy@tempa
5089 }
5090 \def\@hyperref{\hyper@normalise\@hyperref}
5091 \def\@hyperref#1#2#3{%
5092   \edef\ref@one{\ifx\#2\else#2.\fi#3}%
5093   \expandafter\tryhyper@link\ref@one\{#1}%
5094 }
5095 \def\tryhyper@link#1\#2{%
5096   \hyper@@link{#2}{#1}%
5097 }

5098 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}]
5099 \def\@hyperdef#1#2#3{% category, name, text
5100   \ifx\#1\%
5101     \def\Hy@AnchorName{#2}%
5102   \else
5103     \def\Hy@AnchorName{#1.#2}%
5104   \fi
5105   \ifHy@nesting
5106     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
5107   \else
5108     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
5109   \fi
5110 }

```

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

```

5111 \def\label@hyperref[#1]{%
5112   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
5113 }%
5114 \def\label@@hyperref#1#2#3{%
5115   \ifx#1\relax
5116     \protect\G@refundefinedtrue
5117     \@latex@warning{%
5118       Hyper reference ‘#2’ on page \thepage \space undefined%
5119     }%
5120     \begingroup
5121       #3%
5122     \endgroup
5123   \else
5124     \hyper@@link{\expandafter\@fifthoffive#1}%
5125     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5126   \fi
5127 }
5128 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5129                               % anchor text

```

```

5130 \@bsphack
5131 \ifx\|#2\%
5132   \def\Hy@AnchorName{#3}%
5133 \else
5134   \def\Hy@AnchorName{#2.#3}%
5135 \fi
5136 \if@filesw
5137   \protected@write\@auxout{}\{%
5138     \string\newlabel{#1}{\{}{\}\{\}\Hy@AnchorName}{\}}%
5139   }%
5140 \fi
5141 \@esphack
5142 \ifHy@nesting
5143   \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5144 \else
5145   \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5146 \fi
5147 }

```

## 16.1 Link box support for XeTeX

```

5148 \newdimen\XeTeXLinkMargin
5149 \setlength{\XeTeXLinkMargin}{2pt}
5150 \ifxetex
5151   \font\XeTeXLink@font=pzdr at 1sp\relax
5152   \newcommand*\XeTeXLink@space{\%
5153     \begingroup
5154       \XeTeXLink@font
5155       \@xxxii
5156     \endgroup
5157   }%
5158   \newcommand{\XeTeXLinkBox}[1]{%
5159     \begingroup
5160       \leavevmode
5161       \sbox\z@{#1}%
5162       \begingroup
5163         \dimen@=\dp\z@
5164         \advance\dimen@\XeTeXLinkMargin
5165         \setbox\tw@=\llap{%
5166           \hb@xt@\XeTeXLinkMargin{%
5167             \lower\dimen@\hbox{\XeTeXLink@space}%
5168             \hss
5169           }%
5170         }%
5171         \dp\tw@=\dp\z@
5172         \ht\tw@=\ht\z@
5173         \copy\tw@
5174       \endgroup
5175       \copy\z@
5176       \dimen@=\ht\z@
5177       \advance\dimen@\XeTeXLinkMargin
5178       \setbox\tw@=\rlap{%
5179         \hb@xt@\XeTeXLinkMargin{%
5180           \hss
5181           \raise\dimen@\hbox{\XeTeXLink@space}%
5182         }%
5183       }%

```

```

5184 \dp\tw@=\dp\z@
5185 \ht\tw@=\ht\z@
5186 \copy\tw@
5187 \endgroup
5188 }%
5189 \else
5190 \newcommand*{\XeTeXLinkBox}[1]{%
5191 \begingroup
5192 \leavevmode
5193 \sbox\z@{#1}%
5194 \copy\z@
5195 \endgroup
5196 }%
5197 \fi

```

## 17 Underlying basic hypertext macros

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

```

5198 \def\hyper@@link{\let\Hy@reserved@a\relax
5199 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}}%
5200 }
5201 % #1: type
5202 % #2: URL
5203 % #3: destination name
5204 % #4: text
5205 \def\hyper@link@[#1]#2#3#4{%
5206 \ltx@ifempty{#4}{% link text
5207 \Hy@Warning{Suppressing empty link}%
5208 }{%
5209 \begingroup
5210 \protected@edef\Hy@tempa{#2}%
5211 \ifx\Hy@tempa\ltx@empty
5212 \toks@{%
5213 \endgroup
5214 \hyper@link{#1}%
5215 }%
5216 \else
5217 \toks@{%
5218 \endgroup
5219 \expandafter\hyper@readexternallink#2\{#1}%
5220 }%
5221 \fi
5222 \Hy@safe@activetrue
5223 \edef\Hy@tempa{#3}%
5224 \Hy@safe@activesfalse
5225 \toks@\expandafter{%
5226 \the\expandafter\toks@
5227 \expandafter{\Hy@tempa}{#4}%
5228 }%
5229 \the\toks@
5230 }%
5231 }

```

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.

```

5232 \def\hyper@readexternallink#1\\#2#3#4{%
5233   \begingroup
5234     \let\\\relax
5235   \expandafter\endgroup
5236   \expandafter\@hyper@@readexternallink#1\\#{#2}{#3}{#4}%
5237 }
5238 \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.

```

5239   \@hyper@readexternallink{#2}{#3}{#4}#1::\#{#1}%
5240 }

```

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

```

5241 \def\@pdftempwordfile{file}%
5242 \def\@pdftempwordrun{run}%
5243 \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:`

```

5244   \ifx\\#6\\%
5245     \@hyper@linkfile file:#7\\#{#3}{#2}{#7}%
5246   \else
5247     \ifx\\#4\\%
5248       \@hyper@linkfile file:#7\\#{#3}{#2}{#7}%
5249     \else

```

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

```

5250     \def\@pdftempa{#4}%
5251     \ifx\@pdftempa\@pdftempwordfile
5252       \@hyper@linkfile#7\\#{#3}{#2}{#7}%
5253     \else

```

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

```

5254       \ifx\@pdftempa\@pdftempwordrun
5255         \ifHy@pdfa
5256           \Hy@Error{%
5257             PDF/A: Launch action is prohibited%
5258           }\@ehc
5259         \begingroup
5260         \leavevmode
5261         #2%

```

```

5262         \endgroup
5263     \else
5264         \@hyper@launch#7\{\#3}\#2}%
5265     \fi
5266 \else

```

otherwise its a URL

```

5267         \hyper@linkurl{\#3}\#7\ifx\#2\else\hyper@hash#2\fi}%
5268     \fi
5269 \fi
5270 \fi
5271 \fi
5272 }

```

By default, turn run: into file:

```

5273 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
5274 \hyper@linkurl{\#2}%
5275 \Hy@linkfileprefix
5276 #1%
5277 \ifx\#3\%
5278 \else
5279 \hyper@hash
5280 #3%
5281 \fi
5282 }%
5283 }

```

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

```

5284 \def\@hyper@linkfile file:#1\#2#3#4{%
5285 %file url,link string, name, original uri
5286 \filename@parse{\#1}%
5287 \ifx\filename@ext\relax
5288 \edef\filename@ext{\XR@ext}%
5289 \fi
5290 \def\use@file{\filename@area\filename@base.\filename@ext}%
5291 \Hy@ifStringEndsWith\filename@ext\XR@ext{%
5292 \hyper@linkfile{\#2}\use@file\#3}%
5293 }{%
5294 \ifx\@baseurl\empty
5295 \hyper@linkurl{\#2}%
5296 #4\ifx\#3\else\hyper@hash#3\fi
5297 }%
5298 \else
5299 \hyper@linkurl{\#2}\use@file\ifx\#3\else\hyper@hash#3\fi}%
5300 \fi
5301 }%
5302 }

5303 \def\Hy@ifStringEndsWith#1#2{%
5304 \begingroup
5305 \edef\x{\#1}%
5306 \@onelevel@sanitize\x
5307 \edef\x{.\x}%
5308 \edef\y{\#2}%
5309 \@onelevel@sanitize\y
5310 \edef\y{.\y}%
5311 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5312 \endgroup

```

```

5313 \ifx\relax##2\relax
5314 \expandafter\ltx@secondoftwo
5315 \else
5316 \expandafter\ltx@firstoftwo
5317 \fi
5318 }%
5319 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5320 }

5321 \def\Hy@StringLocalhost{localhost}
5322 \@onelevel@sanitize\Hy@StringLocalhost
5323 \def\Hy@CleanupFile#1{%
5324 \edef#1{#1}%
5325 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5326 }
5327 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5328 \begingroup
5329 \toks@{\endgroup}%
5330 \def\x{#1}%
5331 \ifx\x\@empty
5332 \def\x{#2}%
5333 \ifx\x\@empty
5334 \toks@{\endgroup\def#5{/#3}}%
5335 \else
5336 \@onelevel@sanitize\x
5337 \ifx\x\Hy@StringLocalhost
5338 \toks@{\endgroup\def#5{/#3}}%
5339 \fi
5340 \fi
5341 \fi
5342 \the\toks@
5343 }

```

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.

```

5344 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5345 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5346 \ifx\#1\%
5347 #2\Hy@Warning{Ignoring empty anchor}%
5348 \else
5349 \def\anchor@spot{#2#3}%
5350 \let\put@me@back\@empty
5351 \ifx\relax#2\relax
5352 \else
5353 \ifHy@nesting
5354 \else
5355 \ifcat a\noexpand#2\relax
5356 \else
5357 \ifcat 0\noexpand#2 \relax
5358 \else
5359 % \typeout{Anchor start is not alphanumeric %
5360 % on input line\the\inputlineno%
5361 % }%

```

```

5362         \let\anchor@spot\@empty
5363         \def\put@me@back{#2#3}%
5364     \fi
5365 \fi
5366 \fi
5367 \fi
5368 \ifHy@activeanchor
5369     \anchor@spot
5370 \else
5371     \hyper@anchor{#1}%
5372 \fi
5373 \expandafter\put@me@back
5374 \fi
5375 \let\anchor@spot\@empty
5376 }
5377 \let\anchor@spot\ltx@empty

```

## 18 Option ‘destlabel’

```

5378 \ifHy@destlabel

\hyper@newdestlabel

5379 \def\hyper@newdestlabel#1#2{%
5380     \begingroup
5381     \Hy@safe@activetrue
5382     \edef\x{\endgroup
5383         \noexpand\@newl@bel{HyDL}{#1}{#2}%
5384     }%
5385     \x
5386 }%

\hyper@destlabel@hook

5387 \providecommand*{\hyper@destlabel@hook}{}%

\Hy@DestRename

5388 \newcommand*{\Hy@DestRename}[2]{%
5389     \ltx@ifundefined{HyDL!#1}{%
5390         \begingroup
5391         \Hy@safe@activetrue
5392         \edef\dest@name{#1}%
5393         \edef\label@name{#2}%
5394         \hyper@destlabel@hook
5395         \Hy@IsNotEmpty{dest@name}{%
5396             \Hy@IsNotEmpty{label@name}{%
5397                 \global\expandafter
5398                 \let\csname HyDL!#1\endcsname\ltx@empty
5399                 \if@files
5400                     \protected@write\@auxout{}{%
5401                         \string\hyper@newdestlabel
5402                         {#1}%
5403                         {\label@name}%
5404                     }%
5405                 \fi
5406             }%
5407         }%
5408         \endgroup
5409     }{}%

```

```

5410 }%

\HyperDestRename
5411 \newcommand*{\HyperDestRename}[2]{%
5412   \AtBeginDocument{%
5413     \Hy@DestRename{#1}{#2}%
5414   }%
5415 }%
5416 \AtBeginDocument{%
5417   \let\HyperDestRename\Hy@DestRename
5418 }%

\Hy@IsNotEmpty
5419 \def\Hy@IsNotEmpty#1{%
5420   \ltx@ifundefined{#1}\ltx@gobble{%
5421     \expandafter\ifx\csname#1\endcsname\ltx@empty
5422       \expandafter\ltx@gobble
5423     \else
5424       \expandafter\ltx@firstofone
5425     \fi
5426   }%
5427 }%

5428 \ltx@GlobalAppendToMacro\label@hook{%
5429   \HyperDestRename\@currentHref\label@name
5430 }%

\HyperDestLabelReplace
5431 \def\HyperDestLabelReplace#1{%
5432   \ltx@ifundefined{HyDL@#1}{%
5433     #1%
5434   }{%
5435     \csname HyDL@#1\endcsname
5436   }%
5437 }%

\HyperDestNameFilter
5438 \let\HyperDestNameFilter\HyperDestLabelReplace

5439 \else

\hyper@newdestlabel
5440 \let\hyper@newdestlabel\ltx@gobbletwo

\HyperDestLabelReplace
5441 \let\HyperDestLabelReplace\ltx@firstofone

\HyperDestRename
@gobbletwo

5442 \fi
5443 \Hy@DisableOption{destlabel}

Provide a dummy default definition of \hyper@newdestlabel inside the .aux
files.
5444 \AddLineBeginAux{%
5445   \string\providecommand\string\hyper@newdestlabel[2]{}%
5446 }

```



## 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.

```
5447 \let\htmladdimg\hyperimage
5448 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5449 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5450 \def\htmlref#1#2{% anchor text, label
5451   \label@hyperref[{#2}]{#1}%
5452 }
```

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.

```
5453 \def\@@latextohtmlX{%
5454   \let\hhyperref\hyperref
5455   \def\hyperref##1##2##3##4{% anchor text for HTML
5456     % text to print before label in print
5457     % label
5458     % post-label text in print
5459     ##2\ref{##4}##3%
5460   }%
5461 }
```

## 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.

```
5462 \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
5463 \def\HyField@NewFlag#1#2{%
5464   \lowercase{\HyField@NewOption{#2}}%
5465   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5466 }
```

```

\HyField@NewFlagOnly
5467 \def\HyField@NewFlagOnly#1#2{%
5468   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5469 }

\HyField@NewOption #1: option name
5470 \def\HyField@NewOption#1{%
5471   \expandafter\newif\csname ifFld@#1\endcsname
5472   \define@key{Field}{#1}[true]{%
5473     \lowercase{\Field@boolkey{##1}}{#1}%
5474   }%
5475 }

\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
5476 \def\HyField@NewBitsetFlag#1#2#3#4{%
5477   \begingroup
5478     \count@=#4\relax
5479     \advance\count@\m@ne
5480     \def\x##1{%
5481       \endgroup
5482       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5483       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5484         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5485           (\number#4) #2%
5486         }%
5487       \else
5488         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5489           \csname HyField@#3@#1\endcsname
5490           /#2%
5491         }%
5492       \fi
5493     }%
5494     \expandafter\x\expandafter{\the\count@}%
5495 }

\HyField@UseFlag The bit set is HyField@#1
5496 \def\HyField@UseFlag#1#2{%
5497   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5498 }

\HyField@@UseFlag
5499 \def\HyField@@UseFlag#1#2{%
5500   \bitsetSetValue{HyField@#2}{%
5501     \csname HyField@#2@#1\endcsname
5502   }{%
5503     \csname ifFld@#1\endcsname 1\else 0\fi
5504   }%
5505 }

\HyField@SetFlag The bit set is HyField@#1
5506 \def\HyField@SetFlag#1#2{%
5507   \lowercase{\HyField@@SetFlag{#2}}{#1}%
5508 }

```

```

\HyField@@SetFlag
5509 \def\HyField@@SetFlag#1#2{%
5510 \bitsetSetValue{HyField@#2}{%
5511 \csname HyField@#2@#1\endcsname
5512 }{1}%
5513 }

\HyField@PrintFlags
5514 \def\HyField@PrintFlags#1#2{%
5515 \ifHy@verbose
5516 \begingroup
5517 \let\Hy@temp\@empty
5518 \let\MessageBreak\relax
5519 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5520 \bitsetGetSetBitList{HyField@#1}\do{%
5521 \edef\Hy@temp{%
5522 \Hy@temp
5523 \csname HyField@#1@\x\endcsname\MessageBreak
5524 }%
5525 }%
5526 \edef\x{\endgroup
5527 \noexpand\Hy@Info{%
5528 Field flags: %
5529 \expandafter\ifx\@car#1\@nil S\else/\fi
5530 #1 %
5531 \bitsetGetDec{HyField@#1} %
5532 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5533 \Hy@temp
5534 for #2%
5535 }%
5536 }\x
5537 \fi
5538 }

```

### 20.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5539 \HyField@NewFlag{Ff}{ReadOnly}{1}
5540 \HyField@NewFlag{Ff}{Required}{2}
5541 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5542 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5543 \HyField@NewFlag{Ff}{Radio}{16}
5544 \HyField@NewFlag{Ff}{Pushbutton}{17}
5545 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5546 \HyField@NewFlag{Ff}{Multiline}{13}
5547 \HyField@NewFlag{Ff}{Password}{14}
5548 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5549 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5550 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5551 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5552 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5553 \HyField@NewFlag{Ff}{Combo}{18}

```

```

5554 \HyField@NewFlag{Ff}{Edit}{19}
5555 \HyField@NewFlag{Ff}{Sort}{20}
5556 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5557 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5558 \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.

```

5559 \newif\ifFld@popdown
5560 \define@key{Field}{popdown}[true]{%
5561 \lowercase{\Field@boolkey{#1}}{popdown}%
5562 }

```

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.

```

5563 \HyField@NewFlag{F}{Invisible}{1}
5564 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5565 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5566 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5567 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5568 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5569 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5570 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5571 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5572 \ifHy@pdfa
5573 \def\HyField@PDFAFFlagWarning#1#2{%
5574 \Hy@Warning{%
5575 PDF/A: Annotation flag ‘#1’ must\MessageBreak
5576 be set to ‘#2’%
5577 }%
5578 }%
5579 \Fld@invisiblefalse
5580 \def\Fld@invisibletrue{%
5581 \HyField@PDFAFFlagWarning{invisible}{false}%
5582 }%
5583 \Fld@hiddenfalse
5584 \def\Fld@hiddentrue{%
5585 \HyField@PDFAFFlagWarning{hidden}{false}%
5586 }%
5587 \Fld@printtrue
5588 \def\Fld@printfalse{%
5589 \HyField@PDFAFFlagWarning{print}{true}%
5590 }%
5591 \Fld@nozoomtrue
5592 \def\Fld@nozoomfalse{%
5593 \HyField@PDFAFFlagWarning{nozoom}{true}%
5594 }%
5595 \Fld@norotatetrue
5596 \def\Fld@norotatefalse{%
5597 \HyField@PDFAFFlagWarning{norotate}{true}%
5598 }%
5599 \Fld@noviewfalse
5600 \def\Fld@noviewtrue{%

```

```

5601 \HyField@PDFAFIWarning{noview}{false}%
5602 }%
5603 \fi

```

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

```

5604 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5605 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5606 \HyField@NewFlag{Submit}{GetMethod}{4}
5607 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5608 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5609 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5610 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5611 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5612 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5613 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5614 \HyField@NewFlag{Submit}{ExclFKey}{12}
5615 \HyField@NewFlag{Submit}{EmbedForm}{14}

5616 \define@key{Field}{export}{%
5617 \lowercase{\def\Hy@temp{#1}}%
5618 \@ifundefined{Fld@export@\Hy@temp}{%
5619 \onelevel@sanitize\Hy@temp
5620 \Hy@Error{%
5621 Unknown export format '\Hy@temp'.\MessageBreak
5622 Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5623 }\@ehc
5624 }{%
5625 \let\Fld@export\Hy@temp
5626 }%
5627 }
5628 \def\Fld@export{fdf}
5629 \@namedef{Fld@export@fdf}{0}%
5630 \@namedef{Fld@export@html}{1}%
5631 \@namedef{Fld@export@xfdf}{2}%
5632 \@namedef{Fld@export@pdf}{3}%

```

### 20.1.2 Set submit flags

\HyField@FlagsSubmit

```

5633 \def\HyField@FlagsSubmit{%
5634 \bitsetReset{HyField@Submit}%
5635 \ifcase\@nameuse{Fld@export@\Fld@export} %
5636 % FDF
5637 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5638 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5639 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5640 \HyField@UseFlag{Submit}{IncludeAnnotations}%
5641 \HyField@UseFlag{Submit}{CanonicalFormat}%
5642 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5643 \HyField@UseFlag{Submit}{ExclFKey}%
5644 \HyField@UseFlag{Submit}{EmbedForm}%
5645 \or % HTML
5646 \HyField@SetFlag{Submit}{ExportFormat}%
5647 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5648 \HyField@UseFlag{Submit}{GetMethod}%
5649 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5650 \HyField@UseFlag{Submit}{CanonicalFormat}%

```

```

5651 \or % XFDF
5652   \HyField@SetFlag{Submit}{XFDF}%
5653   \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5654   \HyField@UseFlag{Submit}{SubmitCoordinates}%
5655   \HyField@UseFlag{Submit}{CanonicalFormat}%
5656 \or % PDF
5657   \HyField@SetFlag{Submit}{SubmitPDF}%
5658   \HyField@UseFlag{Submit}{GetMethod}%
5659 \fi
5660 \HyField@PrintFlags{Submit}{submit button field}%
5661 \bitsetIsEmpty{HyField@Submit}{%
5662   \let\Fld@submitflags\tx@empty
5663 }{%
5664   \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5665 }%
5666 }

```

### 20.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5667 \def\HyField@FlagsAnnot#1{%
5668   \bitsetReset{HyField@F}%
5669   \HyField@UseFlag{F}{Invisible}%
5670   \HyField@UseFlag{F}{Hidden}%
5671   \HyField@UseFlag{F}{Print}%
5672   \HyField@UseFlag{F}{NoZoom}%
5673   \HyField@UseFlag{F}{NoRotate}%
5674   \HyField@UseFlag{F}{NoView}%
5675   \HyField@UseFlag{F}{Locked}%
5676   \HyField@UseFlag{F}{ToggleNoView}%
5677   \HyField@UseFlag{F}{LockedContents}%
5678   \HyField@PrintFlags{F}{#1}%
5679   \bitsetIsEmpty{HyField@F}{%
5680     \let\Fld@annotflags\tx@empty
5681   }{%
5682     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5683   }%
5684 }

```

### 20.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5685 \def\HyField@FlagsPushButton{%
5686   \HyField@FlagsAnnot{push button field}%
5687   \bitsetReset{HyField@Ff}%
5688   \HyField@UseFlag{Ff}{ReadOnly}%
5689   \HyField@UseFlag{Ff}{Required}%
5690   \HyField@UseFlag{Ff}{NoExport}%
5691   \HyField@SetFlag{Ff}{PushButton}%
5692   \HyField@PrintFlags{Ff}{push button field}%
5693   \bitsetIsEmpty{HyField@Ff}{%
5694     \let\Fld@flags\tx@empty
5695   }{%
5696     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5697   }%
5698 }

```

### 20.1.5 Check box field

\HyField@FlagsCheckBox

```
5699 \def\HyField@FlagsCheckBox{%
5700   \HyField@FlagsAnnot{check box field}%
5701   \bitsetReset{HyField@Ff}%
5702   \HyField@UseFlag{Ff}{ReadOnly}%
5703   \HyField@UseFlag{Ff}{Required}%
5704   \HyField@UseFlag{Ff}{NoExport}%
5705   \HyField@PrintFlags{Ff}{check box field}%
5706   \bitsetIsEmpty{HyField@Ff}{%
5707     \let\Fld@flags\ltx@empty
5708   }{%
5709     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5710   }%
5711 }
```

### 20.1.6 Radio button field

\HyField@FlagsRadioButton

```
5712 \def\HyField@FlagsRadioButton{%
5713   \HyField@FlagsAnnot{radio button field}%
5714   \bitsetReset{HyField@Ff}%
5715   \HyField@UseFlag{Ff}{ReadOnly}%
5716   \HyField@UseFlag{Ff}{Required}%
5717   \HyField@UseFlag{Ff}{NoExport}%
5718   \HyField@UseFlag{Ff}{NoToggleToOff}%
5719   \HyField@SetFlag{Ff}{Radio}%
5720   \HyField@UseFlag{Ff}{RadiosInUnison}%
5721   \HyField@PrintFlags{Ff}{radio button field}%
5722   \bitsetIsEmpty{HyField@Ff}{%
5723     \let\Fld@flags\ltx@empty
5724   }{%
5725     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5726   }%
5727 }
```

### 20.1.7 Text fields

\HyField@FlagsText

```
5728 \def\HyField@FlagsText{%
5729   \HyField@FlagsAnnot{text field}%
5730   \bitsetReset{HyField@Ff}%
5731   \HyField@UseFlag{Ff}{ReadOnly}%
5732   \HyField@UseFlag{Ff}{Required}%
5733   \HyField@UseFlag{Ff}{NoExport}%
5734   \HyField@UseFlag{Ff}{Multiline}%
5735   \HyField@UseFlag{Ff}{Password}%
5736   \HyField@UseFlag{Ff}{FileSelect}%
5737   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5738   \HyField@UseFlag{Ff}{DoNotScroll}%
5739   \ifFld@comb
5740     \ifcase0\ifFld@multiline
5741       \else\ifFld@password
5742       \else\ifFld@fileselect
5743       \else 1\fi\fi\fi\relax
5744     \Hy@Error{%
```

```

5745     Field option 'comb' cannot used together with\MessageBreak
5746     'multiline', 'password', or 'fileselect'%
5747   }\@ehc
5748   \else
5749     \HyField@UseFlag{Ff}{Comb}%
5750   \fi
5751 \fi
5752 \HyField@UseFlag{Ff}{RichText}%
5753 \HyField@PrintFlags{Ff}{text field}%
5754 \bitsetIsEmpty{HyField@Ff}{%
5755   \let\Fld@flags\ltx@empty
5756 }{%
5757   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5758 }%
5759 }

```

### 20.1.8 Choice fields

\HyField@FlagsChoice

```

5760 \def\HyField@FlagsChoice{%
5761   \HyField@FlagsAnnot{choice field}%
5762   \bitsetReset{HyField@Ff}%
5763   \HyField@UseFlag{Ff}{ReadOnly}%
5764   \HyField@UseFlag{Ff}{Required}%
5765   \HyField@UseFlag{Ff}{NoExport}%
5766   \HyField@UseFlag{Ff}{Combo}%
5767   \ifFld@combo
5768     \HyField@UseFlag{Ff}{Edit}%
5769   \fi
5770   \HyField@UseFlag{Ff}{Sort}%
5771   \HyField@UseFlag{Ff}{MultiSelect}%
5772   \ifFld@combo
5773     \ifFld@edit
5774       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5775     \fi
5776   \fi
5777   \HyField@UseFlag{Ff}{CommitOnSelChange}%
5778   \HyField@PrintFlags{Ff}{choice field}%
5779   \bitsetIsEmpty{HyField@Ff}{%
5780     \let\Fld@flags\ltx@empty
5781   }{%
5782     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5783   }%
5784 }

```

## 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.

```

5785 \def\HyField@PDFChoices#1{%
5786   \begingroup
5787   \global\let\Fld@choices\ltx@empty
5788   \let\HyTmp@optlist\ltx@empty
5789   \let\HyTmp@optitem\relax

```



```

5790 \count@=0 %
5791 \kv@parse{#1}{%
5792 \Hy@pdfstringdef\kv@key\kv@key
5793 \ifx\kv@value\relax
5794 \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5795 \xdef\Fld@choices{\Fld@choices(\kv@key)(\kv@key)}}%
5796 \else
5797 \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5798 \fi
5799 \else
5800 \Hy@pdfstringdef\kv@value\kv@value
5801 \xdef\Fld@choices{\Fld@choices(\kv@value)(\kv@key)}}%
5802 \fi
5803 \edef\HyTmp@optlist{%
5804 \HyTmp@optlist
5805 \HyTmp@optitem{the\count@}{\kv@key}0%
5806 }%
5807 \advance\count@ by 1 %
5808 \@gobbletwo
5809 }%
5810 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5811 \ifFld@multiselect
5812 \HyField@@PDFChoices{DV}\Fld@default
5813 \HyField@@PDFChoices{V}\Fld@value
5814 \else
5815 \ifx\Fld@default\relax
5816 \else
5817 \pdfstringdef\Hy@gtemp\Fld@default
5818 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5819 \fi
5820 \ifx\Fld@value\relax
5821 \else
5822 \pdfstringdef\Hy@gtemp\Fld@value
5823 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5824 \fi
5825 \fi
5826 \endgroup
5827 }

```

\HyField@@PDFChoices

```

5828 \def\HyField@@PDFChoices#1#2{%
5829 \ifx#2\relax
5830 \else
5831 \count@=0 %
5832 \def\HyTmp@optitem##1##2##3{%
5833 \def\HyTmp@key{##2}%
5834 \ifx\HyTmp@key\Hy@gtemp
5835 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5836 \HyTmp@optlist
5837 \HyTmp@optitem{##1}{##2}1%
5838 }%
5839 \let\HyTmp@found=Y%
5840 \else
5841 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5842 \HyTmp@optlist
5843 \HyTmp@optitem{##1}{##2}##3%
5844 }%
5845 \fi

```

```

5846 }%
5847 \expandafter\comma@parse\expandafter{#2}{%
5848 \pdfstringdef\Hy@gtemp\comma@entry
5849 \let\HyTmp@found=N %
5850 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5851 \HyTmp@optlist
5852 \ifx\HyTmp@found Y%
5853 \advance\count@ by 1 %
5854 \else
5855 \@onelevel@sanitize\comma@entry
5856 \PackageWarning{hyperref}{%
5857 \string\ChoiceBox: Ignoring value '\comma@entry',%
5858 \MessageBreak
5859 it cannot be found in the choices%
5860 }%
5861 \fi
5862 \@gobble
5863 }%
5864 \def\HyTmp@optitem##1##2##3{%
5865 \ifnum##3=1 %
5866 (##2)%
5867 \fi
5868 }%
5869 \ifcase\count@
5870 \or
5871 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5872 \else
5873 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5874 \ifx#1V%
5875 \def\HyTmp@optitem##1##2##3{%
5876 \ifnum##3=1 %
5877 \@firstofone{ ##1}%
5878 \fi
5879 }%
5880 \edef\HyTmp@optlist{\HyTmp@optlist}%
5881 \xdef\Fld@choices{%
5882 \Fld@choices
5883 /I[\expandafter\@firstofone\HyTmp@optlist]%
5884 }%
5885 \fi
5886 \fi
5887 \fi
5888 }

```

## 20.3 Forms

\HyField@SetKeys

```

5889 \def\HyField@SetKeys{%
5890 \kvsetkeys{Field}%
5891 }

5892 \newif\ifFld@checked
5893 \newif\ifFld@disabled
5894 \Fld@checkedfalse
5895 \Fld@disabledfalse
5896 \newcount\Fld@menulength
5897 \newdimen\Field@Width

```

```

5898 \newdimen\Fld@charsize
5899 \Fld@charsize=10\p@
5900 \def\Fld@maxlen{0}
5901 \def\Fld@align{0}
5902 \def\Fld@color{0 0 0 rg}
5903 \def\Fld@bcolor{1 1 1}
5904 \def\Fld@bordercolor{1 0 0}
5905 \def\Fld@bordersep{1\p@}
5906 \def\Fld@borderwidth{1}
5907 \def\Fld@borderstyle{S}
5908 \def\Fld@cbsymbol{4}
5909 \def\Fld@radiosymbol{H}
5910 \def\Fld@rotation{0}
5911 \def\Form{\@ifnextchar{\@Form}{\@Form[]}}
5912 \def\endForm{\@endForm}
5913 \newif\ifForm@html
5914 \Form@htmlfalse
5915 \def\Form@boolkey#1#2{%
5916   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5917 }
5918 \define@key{Form}{action}{%
5919   \hyper@normalise\Hy@DefFormAction{#1}%
5920 }
5921 \def\Hy@DefFormAction{\def\Form@action}
5922 \def\enc@html{html}
5923 \define@key{Form}{encoding}{%
5924   \def\Hy@tempa{#1}%
5925   \ifx\Hy@tempa\enc@html
5926     \Form@htmltrue
5927     \def\Fld@export{html}%
5928   \else
5929     \Hy@Warning{%
5930       Form 'encoding' key with \MessageBreak
5931       unknown value '#1'%
5932     }%
5933     \Form@htmlfalse
5934   \fi
5935 }
5936 \define@key{Form}{method}{%
5937   \lowercase{\def\Hy@temp{#1}}%
5938   \@ifundefined{Form@method@\Hy@temp}{%
5939     \@onelevel@sanitize\Hy@temp
5940     \Hy@Error{%
5941       Unknown method '\Hy@temp'\MessageBreak
5942       Known values are 'post' and 'get'%
5943     }\@ehc
5944   }{%
5945     \let\Form@method\Hy@temp
5946     \ifcase\@nameuse{Form@method@\Hy@temp} %
5947       \Fld@getmethodfalse
5948     \else
5949       \Fld@getmethodtrue
5950     \fi
5951   }%
5952 }
5953 \def\Form@method{}
5954 \@namedef{Form@method@post}{0}

```

```

5955 \@namedef{Form@method@get}{1}
5956 \newif\ifHyField@NeedAppearances
5957 \def\HyField@NeedAppearancesfalse{%
5958   \global\let\ifHyField@NeedAppearances\iffalse
5959 }
5960 \def\HyField@NeedAppearancetrue{%
5961   \global\let\ifHyField@NeedAppearances\iftrue
5962 }
5963 \HyField@NeedAppearancetrue
5964 \define@key{Form}{NeedAppearances}[true]{%
5965   \edef\Hy@tempa{#1}%
5966   \ifx\Hy@tempa\Hy@true
5967     \HyField@NeedAppearancetrue
5968   \else
5969     \ifx\Hy@tempa\Hy@false
5970       \HyField@NeedAppearancesfalse
5971     \else
5972       \Hy@Error{%
5973         Unexpected value '\Hy@tempa'\MessageBreak
5974         of option 'NeedAppearances' instead of\MessageBreak
5975         'true' or 'false'%
5976       }\@ehc
5977   \fi
5978 \fi
5979 }
5980 \def\Field@boolkey#1#2{%
5981   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5982 }
5983 \ifHy@texht
5984   \newtoks\Field@toks
5985   \Field@toks={ }%
5986   \def\Field@addtoks#1#2{%
5987     \edef\@processme{\Field@toks{the\Field@toks\space #1="#2"}}%
5988     \@processme
5989   }%
5990 \else
5991   \def\Hy@WarnHTMLFieldOption#1{%
5992     \Hy@Warning{%
5993       HTML field option '#1'\MessageBreak
5994       is ignored%
5995     }%
5996   }%
5997 \fi
5998 \def\Fld@checkequals#1=#2=#3\\{%
5999   \def\@currDisplay{#1}%
6000   \ifx\\#2\\%
6001     \def\@currValue{#1}%
6002   \else
6003     \def\@currValue{#2}%
6004   \fi
6005 }
6006 \define@key{Field}{loc}{%
6007   \def\Fld@loc{#1}%
6008 }
6009 \define@key{Field}{checked}[true]{%
6010   \lowercase{\Field@boolkey{#1}}{checked}%
6011 }

```

```

6012 \define@key{Field}{disabled}[true]{%
6013   \lowercase{\Field@boolkey{#1}}{disabled}%
6014 }
6015 \ifHy@texht
6016   \define@key{Field}{accesskey}{%
6017     \Field@addtoks{accesskey}{#1}%
6018   }%
6019   \define@key{Field}{tabkey}{%
6020     \Field@addtoks{tabkey}{#1}%
6021   }%
6022 \else
6023   \define@key{Field}{accesskey}{%
6024     \Hy@WarnHTMLFieldOption{accesskey}%
6025   }%
6026   \define@key{Field}{tabkey}{%
6027     \Hy@WarnHTMLFieldOption{tabkey}%
6028   }%
6029 \fi
6030 \define@key{Field}{name}{%
6031   \def\Fld@name{#1}%
6032 }
6033 \let\Fld@altname\relax
6034 \define@key{Field}{altname}{%
6035   \def\Fld@altname{#1}%
6036 }
6037 \let\Fld@mappingname\relax
6038 \define@key{Field}{mappingname}{%
6039   \def\Fld@mappingname{#1}%
6040 }
6041 \define@key{Field}{width}{%
6042   \def\Fld@width{#1}%
6043   \Field@Width#1\setbox0=\hbox{m}%
6044 }
6045 \define@key{Field}{maxlen}{%
6046   \def\Fld@maxlen{#1}%
6047 }
6048 \define@key{Field}{menulength}{%
6049   \Fld@menulength=#1\relax
6050 }
6051 \define@key{Field}{height}{%
6052   \def\Fld@height{#1}%
6053 }
6054 \define@key{Field}{charsize}{%
6055   \setlength{\Fld@charsize}{#1}%
6056 }
6057 \define@key{Field}{borderwidth}{%
6058   \Hy@defaultbp\Fld@borderwidth{#1}%
6059 }
6060 \def\Hy@defaultbp#1#2{%
6061   \begingroup
6062   \afterassignment\Hy@defaultbpAux
6063   \dimen@=#2bp\relax{#1}{#2}%
6064 }
6065 \begingroup\expandafter\expandafter\expandafter\endgroup
6066 \expandafter\ifx\csname dimexpr\endcsname\relax
6067   \def\Hy@defaultbpAux#1\relax#2#3{%
6068     \ifx!#1!%

```

```

6069 \endgroup
6070 \def#2{#3}%
6071 \else
6072 \dimen@=.99626\dimen@
6073 \edef\x{\endgroup
6074 \def\noexpand#2{%
6075 \strip@pt\dimen@
6076 }%
6077 }\x
6078 \fi
6079 }%
6080 \else
6081 \def\Hy@defaultbpAux#1\relax#2#3{%
6082 \ifx!#1!%
6083 \endgroup
6084 \def#2{#3}%
6085 \else
6086 \edef\x{\endgroup
6087 \def\noexpand#2{%
6088 \strip@pt\dimexpr\dimen@*800/803\relax
6089 }%
6090 }\x
6091 \fi
6092 }%
6093 \fi
6094 \define@key{Field}{borderstyle}{%
6095 \let\Hy@temp\Fld@borderstyle
6096 \def\Fld@borderstyle{#1}%
6097 \Hy@Match\Fld@borderstyle{%
6098 ~[SDBIU]$%
6099 }-}{%
6100 \Hy@Warning{%
6101 Invalid value '@pdfborderstyle'\MessageBreak
6102 for option 'pdfborderstyle'. Valid values:\MessageBreak
6103 \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
6104 \space\space I (Inset), U (Underline)\MessageBreak
6105 Option setting is ignored%
6106 }%
6107 \let\Fld@borderstyle\Hy@temp
6108 }%
6109 }
6110 \define@key{Field}{bordersep}{%
6111 \def\Fld@bordersep{#1}%
6112 }
6113 \define@key{Field}{default}{%
6114 \def\Fld@default{#1}%
6115 }
6116 \define@key{Field}{align}{%
6117 \def\Fld@align{#1}%
6118 }
6119 \define@key{Field}{value}{%
6120 \def\Fld@value{#1}%
6121 }
6122 \define@key{Field}{checkboxsymbol}{%
6123 \Fld@DingDef\Fld@cbsymbol{#1}%
6124 }
6125 \define@key{Field}{radiosymbol}{%

```

```

6126 \Fld@DingDef\Fld@radiosymbol{#1}%
6127 }
6128 \def\Fld@DingDef#1#2{%
6129 \let\Fld@temp\ltx@empty
6130 \Fld@@@DingDef#2\ding{}}\@nil
6131 \let#1\Fld@temp
6132 }
6133 \def\Fld@@@DingDef#1\ding#2#3\@nil{%
6134 \expandafter\def\expandafter\Fld@temp\expandafter{%
6135 \Fld@temp
6136 #1%
6137 }%
6138 \ifx\\#3\\%
6139 \expandafter\@gobble
6140 \else
6141 \begingroup
6142 \lccode'0=#2\relax
6143 \lowercase{\endgroup
6144 \expandafter\def\expandafter\Fld@temp\expandafter{%
6145 \Fld@temp
6146 0%
6147 }%
6148 }%
6149 \expandafter\@firstofone
6150 \fi
6151 {%
6152 \Fld@@@DingDef#3\@nil
6153 }%
6154 }

6155 \define@key{Field}{rotation}{%
6156 \def\Fld@rotation{#1}%
6157 }

6158 \define@key{Field}{backgroundcolor}{%
6159 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6160 }
6161 \define@key{Field}{bordercolor}{%
6162 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6163 }
6164 \define@key{Field}{color}{%
6165 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6166 }

6167 \let\Fld@onclick@code\ltx@empty
6168 \let\Fld@format@code\ltx@empty
6169 \let\Fld@validate@code\ltx@empty
6170 \let\Fld@calculate@code\ltx@empty
6171 \let\Fld@keystroke@code\ltx@empty
6172 \let\Fld@onfocus@code\ltx@empty
6173 \let\Fld@onblur@code\ltx@empty
6174 \let\Fld@onmousedown@code\ltx@empty
6175 \let\Fld@onmouseup@code\ltx@empty
6176 \let\Fld@onenter@code\ltx@empty
6177 \let\Fld@onexit@code\ltx@empty
6178 \def\Hy@temp#1{%
6179 \expandafter\Hy@@@temp\csname Fld@#1@code\endcsname{#1}%
6180 }
6181 \def\Hy@@@temp#1#2{%

```

```

6182 \ifHy@pdfa
6183   \define@key{Field}{#2}{%
6184     \Hy@Error{%
6185       PDF/A: Additional action '#2' is prohibited%
6186     }\@ehc
6187   }%
6188 \else
6189   \define@key{Field}{#2}{%
6190     \def#1{##1}%
6191   }%
6192 \fi
6193 }
6194 \Hy@temp{keystroke}
6195 \Hy@temp{format}
6196 \Hy@temp{validate}
6197 \Hy@temp{calculate}
6198 \Hy@temp{onfocus}
6199 \Hy@temp{onblur}
6200 \Hy@temp{onenter}
6201 \Hy@temp{onexit}
6202 \ifHy@texht
6203   \def\Hy@temp#1{%
6204     \define@key{Field}{#1}{%
6205       \Field@addtoks{#1}{##1}%
6206     }%
6207   }%
6208 \else
6209   \def\Hy@temp#1{%
6210     \define@key{Field}{#1}{%
6211       \Hy@WarnHTMLFieldOption{#1}%
6212     }%
6213   }%
6214 \fi
6215 \Hy@temp{ondblclick}
6216 \Hy@temp{onmousedown}
6217 \Hy@temp{onmouseup}
6218 \Hy@temp{onmouseover}
6219 \Hy@temp{onmousemove}
6220 \Hy@temp{onmouseout}
6221 \Hy@temp{onkeydown}
6222 \Hy@temp{onkeyup}
6223 \Hy@temp{onselect}
6224 \Hy@temp{onchange}
6225 \Hy@temp{onkeypress}
6226 \ifHy@texht
6227   \define@key{Field}{onclick}{%
6228     \Field@addtoks{onclick}{#1}%
6229   }%
6230 \else
6231   \ifHy@pdfa
6232     \define@key{Field}{onclick}{%
6233       \Hy@Error{%
6234         PDF/A: Action 'onclick' is prohibited%
6235       }\@ehc
6236     }%
6237   \else
6238     \define@key{Field}{onclick}{%

```



```

6239 \def\Fld@onclick@code{#1}%
6240 }%
6241 \fi
6242 \fi

6243 \DeclareRobustCommand\TextField{%
6244 \@ifnextchar[{\@TextField}{\@TextField[]}%
6245 }
6246 \DeclareRobustCommand\ChoiceMenu{%
6247 \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6248 }
6249 \DeclareRobustCommand\CheckBox{%
6250 \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6251 }
6252 \DeclareRobustCommand\PushButton{%
6253 \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6254 }
6255 \DeclareRobustCommand\Gauge{%
6256 \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6257 }
6258 \DeclareRobustCommand\Submit{%
6259 \@ifnextchar[{\@Submit}{\@Submit[]}%
6260 }
6261 \DeclareRobustCommand\Reset{%
6262 \@ifnextchar[{\@Reset}{\@Reset[]}%
6263 }
6264 \def\LayoutTextField#1#2{% label, field
6265 #1 #2%
6266 }
6267 \def\LayoutChoiceField#1#2{% label, field
6268 #1 #2%
6269 }
6270 \def\LayoutCheckField#1#2{% label, field
6271 #1 #2%
6272 }
6273 \def\LayoutPushButtonField#1{% button
6274 #1%
6275 }
6276 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6277 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6278 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6279 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6280 \def\MakeButtonField#1{%
6281 \sbox0{%
6282 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6283 }%
6284 \@tempdima\ht0 %
6285 \advance\@tempdima by \Fld@borderwidth bp %
6286 \advance\@tempdima by \Fld@borderwidth bp %
6287 \ht0\@tempdima
6288 \@tempdima\dp0 %
6289 \advance\@tempdima by \Fld@borderwidth bp %
6290 \advance\@tempdima by \Fld@borderwidth bp %
6291 \dp0\@tempdima
6292 \box0\relax
6293 }
6294 \def\DefaultHeightofSubmit{14pt}
6295 \def\DefaultWidthofSubmit{2cm}

```

```

6296 \def\DefaultHeightofReset{14pt}
6297 \def\DefaultWidthofReset{2cm}
6298 \def\DefaultHeightofCheckBox{\baselineskip}
6299 \def\DefaultWidthofCheckBox{\baselineskip}
6300 \def\DefaultHeightofChoiceMenu{\baselineskip}
6301 \def\DefaultWidthofChoiceMenu{\baselineskip}
6302 \def\DefaultHeightofText{\baselineskip}
6303 \def\DefaultHeightofTextMultiline{4\baselineskip}
6304 \def\DefaultWidthofText{3cm}
6305 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6306 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6307 \def\DefaultOptionsofPushButton{print}
6308 \def\DefaultOptionsofCheckBox{print}
6309 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

6310 \def\DefaultOptionsofListBox{print}
6311 \def\DefaultOptionsofComboBox{print,edit,sort}
6312 \def\DefaultOptionsofPopdownBox{print}
6313 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 21 Setup

```

6314 \ifHy@hyperfigures
6315 \Hy@Info{Hyper figures ON}%
6316 \else
6317 \Hy@Info{Hyper figures OFF}%
6318 \fi
6319 \ifHy@nesting
6320 \Hy@Info{Link nesting ON}%
6321 \else
6322 \Hy@Info{Link nesting OFF}%
6323 \fi
6324 \ifHy@hyperindex
6325 \Hy@Info{Hyper index ON}%
6326 \else
6327 \Hy@Info{Hyper index OFF}%
6328 \fi
6329 \ifHy@backref
6330 \Hy@Info{backreferencing ON}%
6331 \else
6332 \Hy@Info{backreferencing OFF}%
6333 \fi
6334 \ifHy@colorlinks
6335 \Hy@Info{Link coloring ON}%
6336 \else
6337 \Hy@Info{Link coloring OFF}%
6338 \fi
6339 \ifHy@ocgcolorlinks
6340 \Hy@Info{Link coloring with OCG ON}%
6341 \else
6342 \Hy@Info{Link coloring with OCG OFF}%
6343 \fi
6344 \ifHy@pdfa
6345 \Hy@Info{PDF/A mode ON}%
6346 \else
6347 \Hy@Info{PDF/A mode OFF}%

```

6348 \fi

## 22 Low-level utility macros

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

```
6349 \edef\hyper@hash{\string#}  
6350 \edef\hyper@tilde{\string~}  
6351 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
6352 \def\@currentHref{Doc-Start}  
6353 \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.

```
6354 \Hy@AtBeginDocument{%  
6355   \Hy@pdfstringtrue  
6356   \PDF@SetupDoc  
6357   \let\PDF@SetupDoc\@empty  
6358   \Hy@DisableOption{pdfpagescrop}%  
6359   \Hy@DisableOption{pdfpagemode}%  
6360   \Hy@DisableOption{pdfnonfullscreenpagemode}%  
6361   \Hy@DisableOption{pdfdirection}%  
6362   \Hy@DisableOption{pdfviewarea}%  
6363   \Hy@DisableOption{pdfviewclip}%  
6364   \Hy@DisableOption{pdfprintarea}%  
6365   \Hy@DisableOption{pdfprintclip}%  
6366   \Hy@DisableOption{pdfprintscaling}%  
6367   \Hy@DisableOption{pdfduplex}%  
6368   \Hy@DisableOption{pdfpicktraybypdfsize}%  
6369   \Hy@DisableOption{pdfprintpagerange}%  
6370   \Hy@DisableOption{pdfnumcopies}%  
6371   \Hy@DisableOption{pdfstartview}%  
6372   \Hy@DisableOption{pdfstartpage}%  
6373   \Hy@DisableOption{pdftoolbar}%  
6374   \Hy@DisableOption{pdfmenubar}%  
6375   \Hy@DisableOption{pdfwindowui}%  
6376   \Hy@DisableOption{pdfwindow}%  
6377   \Hy@DisableOption{pdfcenterwindow}%  
6378   \Hy@DisableOption{pdfdisplaydoctitle}%  
6379   \Hy@DisableOption{pdfpagelayout}%  
6380   \Hy@DisableOption{pdflang}%  
6381   \Hy@DisableOption{baseurl}%  
6382   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi  
6383   \Hy@pdfstringfalse  
6384 }
```

Ignore star from referencing macros:

```
6385 \LetLtxMacro\NoHy@OrgRef\ref  
6386 \DeclareRobustCommand*{\ref}{%  
6387   \@ifstar\NoHy@OrgRef\NoHy@OrgRef  
6388 }  
6389 \LetLtxMacro\NoHy@OrgPageRef\pageref  
6390 \DeclareRobustCommand*{\pageref}{%  
6391   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef  
6392 }
```

## 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.

```
6393 \def\NoHyper{%
6394   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6395   \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6396   \global\let\hyper@livelink\hyper@link
6397   \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6398   \let\hyper@anchor\ltx@gobble
6399   \let\hyper@anchorstart\ltx@gobble
6400   \def\hyper@anchorend{\Hy@xspace@end}%
6401   \let\hyper@linkstart\ltx@gobbletwo
6402   \def\hyper@linkend{\Hy@xspace@end}%
6403   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6404   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6405   \let\Hy@backout\@gobble
6406 }
6407 \def\stop@hyper{%
6408   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6409   \let\Hy@backout\@gobble
6410   \let\hyper@@anchor\ltx@gobble
6411   \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6412   \let\hyper@anchor\ltx@gobble
6413   \let\hyper@anchorstart\ltx@gobble
6414   \def\hyper@anchorend{\Hy@xspace@end}%
6415   \let\hyper@linkstart\ltx@gobbletwo
6416   \def\hyper@linkend{\Hy@xspace@end}%
6417   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6418   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6419 }
6420 \def\endNoHyper{%
6421   \global\let\hyper@link\hyper@livelink
6422 }
6423 \end{package}
```

## 24 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```
6424 \nohyperref
6425 \RequirePackage{letltxmacro}[2008/06/13]
6426 \let\hyper@@anchor\@gobble
6427 \def\hyper@link##1##2##3{##3}%
6428 \let\hyper@anchorstart\@gobble
6429 \let\hyper@anchorend\@empty
6430 \let\hyper@linkstart\@gobbletwo
6431 \let\hyper@linkend\@empty
6432 \def\hyper@linkurl##1##2{##1}%

```

```

6433 \def\hyper@linkfile#1#2#3{#1}%
6434 \def\hyper@link@{#1}#2#3{#1}%
6435 \let\PDF@SetupDoc\@empty
6436 \let\PDF@FinishDoc\@empty
6437 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6438 \def\Acrobatmenu#1#2{\leavevmode#2}
6439 \let\pdfstringdefDisableCommands\@gobbletwo
6440 \let\texorpdfstring\@firstoftwo
6441 \let\pdfbookmark\@undefined
6442 \newcommand\pdfbookmark[3]{}
6443 \let\phantomsection\@empty
6444 \let\hypersetup\@gobble
6445 \let\hyperbaseurl\@gobble
6446 \newcommand*\href[3]{}
6447 \let\hyperdef\@gobbletwo
6448 \let\hyperlink\@gobble
6449 \let\hypertarget\@gobble
6450 \def\hyperref{%
6451   \ifnextchar\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6452 }
6453 \long\def\@gobbleopt[#1]{}
6454 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

6455 \LetLtxMacro\NoHy@OrgRef\ref
6456 \DeclareRobustCommand*\ref{%
6457   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6458 }
6459 \LetLtxMacro\NoHy@OrgPageRef\pageref
6460 \DeclareRobustCommand*\pageref{%
6461   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6462 }
6463 \</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}`

```

6464 \<*package>
6465 \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.

```

6466   \if@filesw
6467     \ifHy@typexml
6468       \immediate\closeout\@mainaux
6469       \immediate\openout\@mainaux\jobname.aux\relax
6470       \immediate\write\@auxout{<relaxxml>\relax}%
6471     \fi
6472     \immediate\write\@auxout{%
6473       \string\providecommand\string\HyperFirstAtBeginDocument{%
6474         \string\AtBeginDocument}^^J%
6475       \string\HyperFirstAtBeginDocument{%

```

```

6476 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6477 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6478 \string\gdef\string\contentsline%
6479 \string#1\string#2\string#3\string#4{%
6480 \string\oldcontentsline%
6481 {\string#1}{\string#2}{\string#3}}^^J%
6482 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6483 \string\gdef\string\newlabel\string#1\string#2{%
6484 \string\newlabelxx{\string#1}\string#2}^^J%
6485 \string\gdef\string\newlabelxx%
6486 \string#1\string#2\string#3\string#4\string#5\string#6{%
6487 \string\oldnewlabel{\string#1}{\string#2}{\string#3}}^^J%

```

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

```

6488 \string\AtEndDocument{%
6489 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6490 \string\let\string\contentsline\string\oldcontentsline^^J%
6491 \string\let\string\newlabel\string\oldnewlabel^^J%
6492 \string\fi%
6493 }^^J%

```

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

```

6494 \string\fi%
6495 }^^J%
6496 \string\global\string\let\string\hyper@last\relax^^J%
6497 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6498 }%
6499 \fi
6500 \let\HyperFirstAtBeginDocument\ltx@firstofone

```

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

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

```

6501 \ifx\hyper@last\@undefined
6502 \def\@starttoc#1{%
6503 \begingroup
6504 \makeatletter
6505 \ltx@ifpackageloaded{parskip}{\parskip\z@}{}%
6506 \IfFileExists{\jobname.#1}{%
6507 \Hy@WarningNoLine{%
6508 old #1 file detected, not used; run LaTeX again%
6509 }%
6510 }{}%
6511 \if@files
6512 \expandafter\newwrite\csname tf@#1\endcsname
6513 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6514 \fi
6515 \@nobreakfalse
6516 \endgroup
6517 }%
6518 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
6519 \fi
6520 }

```

## 26 Title strings

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

```

6521 \ifHy@pdfusetitle
6522   \let\HyOrg@title\title
6523   \let\HyOrg@author\author
6524   \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6525   \def\Hy@scanopttitle[#1]{%
6526     \gdef\Hy@title{#1}%
6527     \HyOrg@title{#1}%
6528   }%
6529   \def\Hy@scantitle#1{%
6530     \gdef\Hy@title{#1}%
6531     \HyOrg@title{#1}%
6532   }%
6533   \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6534   \def\Hy@scanoptauthor[#1]{%
6535     \gdef\Hy@author{#1}%
6536     \HyOrg@author{#1}%
6537   }%
6538   \def\Hy@scanauthor#1{%
6539     \gdef\Hy@author{#1}%
6540     \HyOrg@author{#1}%
6541   }%

```

The case, that `or` re given before `hyperref` is loaded, is much more complicate, because LaTeX initializes the macros `title` and `author` with LaTeX error and warning messages.

```

6542 \begingroup
6543   \def\process@me#1\@nil#2{%
6544     \expandafter\let\expandafter\x\csname @#2\endcsname
6545     \edef\y{\expandafter\strip@prefix\meaning\x}%
6546     \def\c##1##2\@nil{%
6547       \ifx\\##1\\%
6548         \else
6549           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6550             \expandafter{\x}%
6551       \fi
6552     }%
6553     \expandafter\c\y\relax#1\@nil
6554   }%
6555   \expandafter\process@me\string\@latex@\@nil{title}%
6556   \expandafter\process@me\string\@latex@\@nil{author}%
6557 \endgroup
6558 \fi
6559 \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.

```

6560 \def\Hy@UseMaketitleString#1{%
6561   \ltx@ifundefined{Hy@#1}{}%
6562   \begingroup
6563     \let\Hy@saved@hook\pdfstringdefPreHook
6564     \pdfstringdefDisableCommands{%
6565       \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6566       \let\newline\\%
6567     }%
6568     \expandafter\ifx\csname @pdf#1\endcsname\@empty
6569     \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6570       \csname Hy@#1\endcsname\@empty
6571     }%
6572   \fi
6573   \global\let\pdfstringdefPreHook\Hy@saved@hook
6574 \endgroup
6575 }%
6576 }
6577 \def\Hy@newline@title#1{ #1}
6578 \def\Hy@newline@author#1{, #1}
6579 \def\Hy@UseMaketitleInfos{%
6580   \Hy@UseMaketitleString{title}%
6581   \Hy@UseMaketitleString{author}%
6582 }

```

## 27 Page numbers

This stuff is done by Heiko Oberdiek.

## 28 Every page

```

6583 \RequirePackage{atbegshi}[2007/09/09]
6584 \let\Hy@EveryPageHook\ltx@empty
6585 \let\Hy@EveryPageBoxHook\ltx@empty
6586 \let\Hy@FirstPageHook\ltx@empty
6587 \AtBeginShipout{%
6588   \Hy@EveryPageHook
6589   \ifx\Hy@EveryPageBoxHook\ltx@empty
6590   \else
6591     \setbox\AtBeginShipoutBox=\vbox{%
6592       \offinterlineskip
6593       \Hy@EveryPageBoxHook
6594       \box\AtBeginShipoutBox
6595     }%
6596   \fi
6597 }
6598 \ltx@iffileloaded{hpdftex.def}{%
6599   \AtBeginShipout{%
6600     \Hy@FirstPageHook
6601     \global\let\Hy@FirstPageHook\ltx@empty
6602   }%
6603 }{%
6604   \AtBeginShipoutFirst{%
6605     \Hy@FirstPageHook
6606   }%
6607 }
6608 \g@addto@macro\Hy@FirstPageHook{%

```



```

6609 \PDF@FinishDoc
6610 \global\let\PDF@FinishDoc\ltx@empty
6611 }

```

## 28.1 PDF /PageLabels

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

```

6612 \ifHy@pdfpagelabels
6613 \begingroup\expandafter\expandafter\expandafter\endgroup
6614 \expandafter\ifx\csname thepage\endcsname\relax
6615 \Hy@pdfpagelabelsfalse
6616 \Hy@WarningNoLine{%
6617   Option 'pdfpagelabels' is turned off\MessageBreak
6618   because \string\thepage\space is undefined%
6619 }%
6620 \csname fi\endcsname
6621 \csname iffalse\expandafter\endcsname
6622 \fi

```

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

```

6623 \def\thispdfpagelabel#1{%
6624   \gdef\HyPL@thisLabel{#1}%
6625 }%
6626 \global\let\HyPL@thisLabel\relax

```

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

```

6627 \let\HyPL@Labels\ltx@empty

```

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

```

6628 \newcount\Hy@abspage
6629 \Hy@abspage=0 %

```

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

```

6630 \def\HyPL@LastType{init}%
6631 \def\HyPL@LastNumber{0}%
6632 \let\HyPL@LastPrefix\ltx@empty

```

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

```

6633 \def\HyPL@arabic{D}%
6634 \def\HyPL@Roman{R}%
6635 \def\HyPL@roman{r}%
6636 \def\HyPL@Alph{A}%
6637 \def\HyPL@alph{a}%
6638 \let\HyPL@SlidesSetPage\ltx@empty
6639 \ltx@ifclassloaded{slides}{%
6640   \def\HyPL@SlidesSetPage{%
6641     \advance\c@page\ltx@one
6642     \ifnum\value{page}>\ltx@one
6643       \protected@edef\HyPL@SlidesOptionalPage{%
6644         \Hy@SlidesFormatOptionalPage{\thepage}%
6645       }%
6646     \else
6647       \let\HyPL@SlidesOptionalPage\ltx@empty
6648     \fi
6649     \advance\c@page-\ltx@one

```

```

6650 \def\HyPL@page{%
6651 \csname the\Hy@SlidesPage\endcsname
6652 \HyPL@SlidesOptionalPage
6653 }%
6654 }%
6655 }{}%

```

`\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.

```

6656 \def\HyPL@EveryPage{%
6657 \begingroup
6658 \ifx\HyPL@thisLabel\relax
6659 \let\HyPL@page\thepage
6660 \HyPL@SlidesSetPage
6661 \else
6662 \let\HyPL@page\HyPL@thisLabel
6663 \global\let\HyPL@thisLabel\relax
6664 \fi
6665 \let\HyPL@Type\relax
6666 \ifnum\c@page>0 %
6667 \ifx\HyPL@SlidesSetPage\ltx@empty
6668 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6669 \fi
6670 \fi
6671 \let\Hy@temp Y%
6672 \ifx\HyPL@Type\HyPL@LastType
6673 \else
6674 \let\Hy@temp N%
6675 \fi
6676 \ifx\HyPL@Type\relax
6677 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6678 \else
6679 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6680 \fi
6681 \ifx\HyPL@Prefix\HyPL@LastPrefix
6682 \else
6683 \let\Hy@temp N%
6684 \fi
6685 \if Y\Hy@temp
6686 \advance\c@page by -1 %
6687 \ifnum\HyPL@LastNumber=\the\c@page\relax
6688 \else
6689 \let\Hy@temp N%
6690 \fi
6691 \Hy@StepCount\c@page
6692 \fi
6693 \if N\Hy@temp
6694 \ifx\HyPL@Type\relax
6695 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6696 \else
6697 \HyPL@StorePageLabel{%
6698 \ifx\HyPL@Prefix\@empty
6699 \else
6700 /P(\HyPL@Prefix)%
6701 \fi
6702 /S/\csname HyPL\HyPL@Type\endcsname
6703 \ifnum\the\c@page=1 %

```

```

6704         \else
6705         \space/St \the\c@page
6706         \fi
6707     }%
6708     \fi
6709     \fi
6710     \xdef\HyPL@LastNumber{\the\c@page}%
6711     \global\let\HyPL@LastType\HyPL@Type
6712     \global\let\HyPL@LastPrefix\HyPL@Prefix
6713     \endgroup
6714     \Hy@GlobalStepCount\Hy@abspage
6715 }%

```

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

```

6716 \def\HyPL@CheckThePage#1\@nil{%
6717   \HyPL@@CheckThePage{#1}#1\c@page\endcsname\c@page\@nil
6718 }%

```

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

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

```

6719 \def\HyPL@@CheckThePage#1#2\c@page#3\endcsname\c@page#4\@nil{%
6720   \def\Hy@tempa{#4}%
6721   \def\Hy@tempb{\c@page\endcsname\c@page}%
6722   \ifx\Hy@tempa\Hy@tempb
6723     \expandafter\ifx\c@page HyPL#3\endcsname\relax
6724   \else
6725     \def\HyPL@Type{#3}%
6726     \def\HyPL@Prefix{#2}%
6727     \fi
6728   \else
6729     \begingroup
6730     \let\Hy@next\endgroup
6731     \let\HyPL@found\@undefined
6732     \def\arabic{\HyPL@Format{arabic}}%
6733     \def\Roman{\HyPL@Format{Roman}}%
6734     \def\roman{\HyPL@Format{roman}}%
6735     \def\Alph{\HyPL@Format{Alph}}%
6736     \def\alph{\HyPL@Format{alph}}%
6737     \protected@edef\Hy@temp{#1}%
6738     \ifx\HyPL@found\relax
6739       \toks@{\expandafter\Hy@temp}%
6740       \edef\Hy@next{\endgroup
6741         \noexpand\HyPL@@CheckThePage\the\toks@
6742         \noexpand\HyPL@found\relax\noexpand\@nil
6743       }%
6744     \fi
6745     \Hy@next
6746   \fi
6747 }%

```

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

```

6748 \def\HyPL@Format#1#2{%

```

```

6749 \ifx\HyPL@found\@undefined
6750 \expandafter\ifx\csname c@#2\endcsname\c@page
6751 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6752 \else
6753 \expandafter\noexpand\csname#1\endcsname{#2}%
6754 \fi
6755 \else
6756 \expandafter\noexpand\csname#1\endcsname{#2}%
6757 \fi
6758 }%

```

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

```

6759 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6760 \def\Hy@tempa{#3}%
6761 \def\Hy@tempb{\HyPL@found\relax}%
6762 \ifx\Hy@tempa\Hy@tempb
6763 \def\HyPL@Type{#2}%
6764 \def\HyPL@Prefix{#1}%
6765 \fi
6766 }%

```

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

```

6767 \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`.

```

6768 \def\HyPL@Useless{0<</S/D>>}%
6769 \@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.

```

6770 \def\HyPL@SetPageLabels{%
6771 \@onelevel@sanitize\HyPL@Labels
6772 \ifx\HyPL@Labels\@empty
6773 \else
6774 \ifx\HyPL@Labels\HyPL@Useless
6775 \else
6776 \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6777 \fi
6778 \fi
6779 }%

```

```

6780 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6781 \fi

```

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

```

6782 \Hy@DisableOption{pdfpagelabels}
6783 </package>

```

### 28.1.1 pdfTeX and VTeX

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

\Hy@PutCatalog

```

6784 <*pdfTeX>
6785 \pdf@ifdraftmode{%
6786   \let\Hy@PutCatalog\ltx@gobble
6787 }{%
6788   \let\Hy@PutCatalog\pdfcatalog
6789 }
6790 </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.

```

6791 <*vTeX>
6792 \providecommand*{\XR@ext}{pdf}
6793 \edef\Hy@VTeXversion{%
6794   \ifx\VTeXversion\@undefined
6795     \z@
6796   \else
6797     \ifx\VTeXversion\relax
6798       \z@
6799     \else
6800       \VTeXversion
6801     \fi
6802   \fi
6803 }
6804 \begingroup
6805   \ifnum\Hy@VTeXversion<660 %
6806     \gdef\Hy@PutCatalog#1{%
6807       \Hy@WarningNoLine{%
6808         VTeX 6.59g or above required for pdfpagelabels%
6809       }%
6810     }%
6811   \else
6812     \gdef\Hy@PutCatalog#1{%
6813       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6814     }%
6815     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6816       \ifx\#2\%
6817         \else
6818           \immediate\special{!pdfpagelabels #2}%
6819         \fi
6820       }%
6821     \fi
6822 \endgroup
6823 </vTeX>

6824 <*pdfTeX | vTeX>

```

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

```

6825 \ifHy@pdfpagelabels
6826   \def\HyPL@StorePageLabel#1{%
6827     \toks@\expandafter{\HyPL@Labels}%
6828     \xdef\HyPL@Labels{%
6829       \the\toks@
6830       \the\Hy@abspace<<#1>>%

```

```

6831 }%
6832 }%

```

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.

```

6833 \RequirePackage{atveryend}[2009/12/07]%
6834 \AtVeryEndDocument{%
6835   \HyPL@SetPageLabels
6836 }%

6837 \fi
6838 </pdfTeX | vtex>

```

### 28.1.2 xetex

```

6839 <*xetex>
6840 \HyPsd@LoadUnicode
6841 \Hy@unicodetrue
6842 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6843 \else
6844   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6845 \fi
6846 \HyPsd@LoadStringEnc
6847 \define@key{Hyp}{unicode}[true]{%
6848   \Hy@boolkey{unicode}{#1}%
6849   \ifHy@unicode
6850   \else
6851     \Hy@Warning{%
6852       XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6853       option setting 'unicode=false'%
6854     }%
6855     \Hy@unicodetrue
6856   \fi
6857 }
6858 \define@key{Hyp}{pdfencoding}{%
6859   \edef\HyPsd@temp{#1}%
6860   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6861     \let\HyPsd@pdfencoding\HyPsd@temp
6862   \else
6863     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6864       \let\HyPsd@pdfencoding\HyPsd@temp
6865     \else
6866       \Hy@Warning{%
6867         XeTeX driver only supports\MessageBreak
6868         'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6869         setting 'pdfencoding=\HyPsd@temp'%
6870       }%
6871     \fi
6872   \fi
6873 }
6874 \let\HyXeTeX@CheckUnicode\relax
6875 </xetex>

```

### 28.1.3 pdfmarkbase, dvipdfm, xetex

```

6876 <*pdfmarkbase>
6877 \begingroup
6878 \@ifundefined{headerps@out}{-}{%

```

```

6879 \toks@\expandafter{\Hy@FirstPageHook}%
6880 \xdef\Hy@FirstPageHook{%
6881 \noexpand\headerps@out{%
6882   systemdict /pdfmark known%
6883   {%
6884     userdict /?pdfmark systemdict /exec get put%
6885   }{%
6886     userdict /?pdfmark systemdict /pop get put %
6887     userdict /pdfmark systemdict /cleartomark get put%
6888   }%
6889   ifelse%
6890 }%
6891 \the\toks@
6892 }%
6893 }%
6894 \endgroup
6895 \pdfmarkbase

```

\Hy@PutCatalog

```

6896 \dvi\pdfm | xetex\def\Hy@PutCatalog#1{\@pdfm@mark{docview <<#1>>}}
6897 \*pdfmarkbase
6898 \def\Hy@PutCatalog#1{%
6899 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>}}%
6900 }
6901 \pdfmarkbase

6902 \*pdfmarkbase | dvi\pdfm | xetex
6903 \ifHy@pdfpagelabels

```

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

```

6904 \def\HyPL@StorePageLabel#1{%
6905 \if@filesw
6906 \begin{group}
6907 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6908 \immediate\write\@mainaux{%
6909 \string\HyPL@Entry{\Hy@tempa}%
6910 }%
6911 \end{group}
6912 \fi
6913 }%

```

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.

```

6914 \Hy@AtBeginDocument{%
6915 \if@filesw
6916 \immediate\write\@mainaux{%
6917 \string\providecommand\string*\string\HyPL@Entry[1]{}%
6918 }%
6919 \fi
6920 \ifx\HyPL@Labels\@empty
6921 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6922 \else
6923 \HyPL@SetPageLabels
6924 \fi
6925 \let\HyPL@Entry\@gobble
6926 }%

```

`\HyPL@Entry`

```

6927 \def\HyPL@Entry#1{%
6928   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6929     \HyPL@Labels
6930     #1%
6931   }%
6932 }%

6933 \fi
6934 </pdfmarkbase | dvipdfm | xetex>
6935 <*package>

6936 \ifx\MaybeStopEarly\relax
6937 \else
6938   \Hy@stoppedearlytrue
6939   \expandafter\MaybeStopEarly
6940 \fi
6941 \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 it's up to you to make sure these are legal PDF and HTML names. The ‘hypertextnames=false’ option just makes up arbitrary names.

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

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

Start with a fallback for equations

```

6942 \def\Hy@CounterExists#1{%
6943   \begingroup\expandafter\expandafter\expandafter\endgroup
6944   \expandafter\ifx\csname c@#1\endcsname\relax
6945     \expandafter\@gobble
6946   \else
6947     \begingroup\expandafter\expandafter\expandafter\endgroup
6948     \expandafter\ifx\csname the#1\endcsname\relax
6949       \expandafter\expandafter\expandafter\@gobble
6950     \else
6951       \expandafter\expandafter\expandafter\@firstofone
6952     \fi
6953   \fi
6954 }
6955 \Hy@CounterExists{section}{%
6956   \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6957 }

```



```

6958 \Hy@CounterExists{part}{%
6959 \providecommand\theHpart{\arabic{part}}}%
6960 }
6961 \ltx@ifundefined{thechapter}{%
6962 \providecommand\theHsection {\arabic{section}}%
6963 \providecommand\theHfigure {\arabic{figure}}%
6964 \providecommand\theHtable {\arabic{table}}%
6965 }{%
6966 \providecommand\theHchapter {\arabic{chapter}}%
6967 \providecommand\theHfigure {\theHchapter.\arabic{figure}}%
6968 \providecommand\theHtable {\theHchapter.\arabic{table}}%
6969 \providecommand\theHsection {\theHchapter.\arabic{section}}%
6970 }
6971 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6972 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6973 \providecommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
6974 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6975 \providecommand\theHtheorem {\theHsection.\arabic{theorem}}
6976 \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.

```

6977 \let\H@item\item
6978 \newcounter{Item}
6979 \def\theHItem{\arabic{Item}}
6980 \def\item{%
6981 \@hyper@itemfalse
6982 \if@nmbrlist\@hyper@itemtrue\fi
6983 \H@item
6984 }
6985 \providecommand\theHenumi {\theHItem}
6986 \providecommand\theHenumii {\theHItem}
6987 \providecommand\theHenumiii {\theHItem}
6988 \providecommand\theHenumiv {\theHItem}
6989 \providecommand\theHHfootnote {\arabic{Hfootnote}}
6990 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6991 \@ifundefined{theHHmpfootnote}{%
6992 \let\theHHmpfootnote\theHHfootnote
6993 }{}

```

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.

```

6994 \let\H@refstepcounter\refstepcounter
6995 \edef\name@of@eq{equation}%
6996 \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.

```

6997 \newif\if@hyper@item
6998 \newif\if@skiphyperref
6999 \@hyper@itemfalse
7000 \@skiphyperreffalse
7001 \def\refstepcounter#1{%
7002 \ifHy@pdfstring
7003 \else

```

```

7004 \H@refstepcounter{#1}%
7005 \edef\This@name{#1}%
7006 \ifx\This@name\name@of@slide
7007 \else
7008 \if@skiphyperref
7009 \else
7010 \if@hyper@item
7011 \stepcounter{Item}%
7012 \hyper@refstepcounter{Item}%
7013 \@hyper@itemfalse
7014 \else
7015 \hyper@refstepcounter{#1}%
7016 \fi
7017 \fi
7018 \fi
7019 \fi
7020 }
7021 \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.

```

7022 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

7023 \def\hyper@refstepcounter#1{%
7024 \edef\This@name{#1}%
7025 \ifx\This@name\name@of@eq
7026 \@ifundefined{theHequation}{%
7027 \make@stripped@name{\theequation}%
7028 \let\theHequation\newname
7029 }{}%
7030 \fi
7031 \HyCnt@ProvideTheHCounter{#1}%
7032 \hyper@makecurrent{#1}%
7033 \ifmeasuring@
7034 \else
7035 \Hy@raisedlink{%
7036 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7037 }%
7038 \fi
7039 }

```

`\Hy@ProvideTheHCounter` `\theH<counter>` is not set for counters that are defined before ‘hyperref’ is loaded. In `\clearcount`, 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.

```

7040 \def\HyCnt@ProvideTheHCounter#1{%
7041 \@ifundefined{theH#1}{%
7042 \expandafter\def\csname theH#1\endcsname{}%
7043 \def\Hy@temp{\@elt{#1}}%
7044 \ltx@onelevel@sanitize\Hy@temp
7045 \let\HyOrg@elt\@elt
7046 \edef\@elt{%

```

```

7047 \noexpand\HyCnt@LookForParentCounter
7048 \expandafter\noexpand\csname theH#1\endcsname
7049 }%
7050 \cl@@ckpt
7051 \let\@elt\HyOrg@elt
7052 \expandafter
7053 \ltx@LocalAppendToMacro\csname theH#1\expandafter\endcsname
7054 \expandafter{%
7055 \expandafter\@arabic\csname c@#1\endcsname
7056 }%
7057 }{}%
7058 }

```

\Hy@LookForParentCounter

```

7059 \def\HyCnt@LookForParentCounter#1#2{%
7060 \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
7061 \ltx@ifundefined{cl@#2}{%
7062 }{%
7063 \ltx@onelevel@sanitize\Hy@temp@A
7064 \edef\Hy@temp@A{%
7065 \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
7066 }\Hy@temp@A
7067 \ifin@
7068 \ltx@ifundefined{theH#2}{%
7069 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7070 \expandafter{%
7071 \expandafter\@arabic\csname c@#2\endcsname.%
7072 }%
7073 }{%
7074 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7075 \expandafter{%
7076 \csname theH#2\endcsname.%
7077 }%
7078 }%
7079 \fi
7080 }%
7081 }

```

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.

```

7082 \begingroup\expandafter\expandafter\expandafter\endgroup
7083 \expandafter\ifx\csname chapter\endcsname\relax
7084 \def\Hy@chapterstring{section}%
7085 \else
7086 \def\Hy@chapterstring{chapter}%
7087 \fi
7088 \def\Hy@appendixstring{appendix}
7089 \def\Hy@chapapp{\Hy@chapterstring}
7090 \ltx@ifundefined{appendix}{%
7091 }{%
7092 \let\HyOrg@appendix\appendix
7093 \def\Hy@AlphNoErr#1{%
7094 \ifnum\value{#1}>26 %

```

```

7095     Alph\number\value{#1}%
7096   \else
7097     \ifnum\value{#1}<1 %
7098       Alph\number\value{#1}%
7099     \else
7100       \Alph{#1}%
7101     \fi
7102   \fi
7103 }%
7104 \def\appendix{%
7105   \ltx@ifundefined{chapter}{%
7106     \gdef\theHsection{\Hy@AlphNoErr{section}}}%
7107   }{%
7108     \gdef\theHchapter{\Hy@AlphNoErr{chapter}}}%
7109   }%
7110   \xdef\Hy@chapapp{\Hy@appendixstring}%
7111   \HyOrg@appendix
7112 }%
7113 }

```

\Hy@Test@alph

```

7114 \def\Hy@Test@alph#1{%
7115   \ifcase#1\or
7116     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
7117     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
7118     u\or v\or w\or x\or y\or z%
7119   \else
7120     \@ctrerr
7121   \fi
7122 }

```

\Hy@Test@Alph

```

7123 \def\Hy@Test@Alph#1{%
7124   \ifcase#1\or
7125     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
7126     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
7127     U\or V\or W\or X\or Y\or Z%
7128   \else
7129     \@ctrerr
7130   \fi
7131 }

```

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

```

7132 \def\hyper@makecurrent#1{%
7133   \begingroup
7134     \Hy@safe@activetrue
7135     \edef\Hy@param{#1}%
7136     \ifx\Hy@param\Hy@chapterstring
7137       \let\Hy@param\Hy@chapapp
7138     \fi
7139     \ifHy@hypertextnames
7140       \let\@number\@firstofone
7141       \def\@fnsymbol##1{\fnsymbol\number##1}%
7142       \def\@arabic##1{\number##1}%
7143       \ifx\@alph\Hy@Test@alph
7144         \else

```

```

7145 \def\@alph{alph\number}%
7146 \fi
7147 \ifx\@Alph\Hy@Test@Alph
7148 \else
7149 \def\@Alph{Alph\number}%
7150 \fi
7151 \ifHy@naturalnames
7152 \let\textlatin\@firstofone
7153 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7154 \else
7155 \xdef\HyperGlobalCurrentHref{%
7156 \csname
7157 the%
7158 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7159 #1%
7160 \endcsname
7161 }%
7162 \fi
7163 \xdef\HyperGlobalCurrentHref{%
7164 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7165 }%
7166 \else
7167 \Hy@GlobalStepCount\Hy@linkcounter
7168 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7169 \fi
7170 \endgroup
7171 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7172 \ifHy@localanchorname
7173 \let\@currentHref\HyperLocalCurrentHref
7174 \else
7175 \global\let\@currentHref\HyperGlobalCurrentHref
7176 \fi
7177 }

```

\Hy@MakeCurrentHref

```

7178 \def\Hy@MakeCurrentHref#1{%
7179 \edef\HyperLocalCurrentHref{#1}%
7180 \@onelevel@sanitize\HyperLocalCurrentHref
7181 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
7182 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7183 \ifHy@localanchorname
7184 \let\@currentHref\HyperLocalCurrentHref
7185 \else
7186 \global\let\@currentHref\HyperGlobalCurrentHref
7187 \fi
7188 }

```

\Hy@MakeCurrentHrefAuto

```

7189 \def\Hy@MakeCurrentHrefAuto#1{%
7190 \Hy@GlobalStepCount\Hy@linkcounter
7191 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7192 }

```

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

```

7193 \def\@currentHlabel{\@currentHref}

7194 \@ifpackageloaded{fancyvrb}{%

```

```

7195 \@@ifpackagelater{fancyvrb}{1998/05/20}{-}{-}%
7196 \def\FV@StepLineNo{%
7197   \FV@SetLineNo
7198   \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
7199   \FV@StepLineNo
7200 }%
7201 }%
7202 }-}

```

## 30 Package lastpage support

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

```

\lastpage@putlabel
7203 \Hy@AtBeginDocument{%
7204   \@@ifclassloaded{revtex4}{-}%
7205   \@@namedef{ver@lastpage.sty}{1994/06/25}%
7206   }-}%
7207 \@@ifpackageloaded{lastpage}{-}%
7208   \ifHy@pageanchor
7209   \else
7210     \Hy@WarningNoLine{%
7211       The \string\pageref{LastPage} link doesn't work\MessageBreak
7212       with disabled option 'pageanchor'%
7213     }%
7214   \fi
7215   \def\lastpage@putlabel{%
7216     \addtocounter{page}{-1}%
7217     \if@filesw
7218       \begingroup
7219         \let\@number\@firstofone
7220         \ifHy@pageanchor
7221           \ifHy@hypertextnames
7222             \ifHy@plainpages
7223               \def\Hy@temp{\arabic{page}}%
7224             \else
7225               \Hy@unicodedefalse
7226               \pdfstringdef\Hy@temp{\thepage}%
7227             \fi
7228           \else
7229             \def\Hy@temp{\the\Hy@pagecounter}%
7230           \fi
7231         \fi
7232         \immediate\write\@auxout{%
7233           \string\newlabel
7234           {LastPage}{-}{\thepage}{-}{-}%
7235           \ifHy@pageanchor page.\Hy@temp\fi}{-}}%
7236       }%
7237     \endgroup
7238   \fi

```

```

7239 \addtocounter{page}{1}%
7240 }%
7241 \@ifclassloaded{revtex4}{%
7242 \begingroup
7243 \toks@{\expandafter{\lastpage@putlabel}}%
7244 \edef\x{\endgroup
7245 \def\noexpand\lastpage@putlabel{%
7246 \noexpand\stepcounter{page}%
7247 \the\toks@
7248 \noexpand\addtocounter{page}\noexpand\m@ne
7249 }%
7250 }%
7251 \x
7252 }{}%
7253 }{}%
7254 }
7255 \endpackage
7256 \ifcheck
7257 \checkpackage{lastpage}[1994/06/25]
7258 \checkcommand\def\lastpage@putlabel{%
7259 \addtocounter{page}{-1}%
7260 \immediate\write\@auxout{%
7261 \string\newlabel{LastPage}{\the\thepage}}%
7262 }%
7263 \addtocounter{page}{1}%
7264 }
7265 \endcheck
7266 \ifpackage

```

## 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.

```

7267 \def\hypergetref#1{\getrefbykeydefault{#1}{\{??\}}
7268 \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:

```

7269 \@ifpackageloaded{titlesec}{%
7270 \def\ttl@Hy@steplink#1{%
7271 \Hy@MakeCurrentHrefAuto{#1*}%
7272 \edef\ttl@Hy@saveanchor{%
7273 \noexpand\Hy@raisedlink{%
7274 \noexpand\hyper@anchorstart{\@currentHref}%
7275 \noexpand\hyper@anchorend
7276 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7277 \noexpand\ttl@Hy@PatchSaveWrite
7278 }%
7279 }%
7280 }%
7281 \def\ttl@Hy@PatchSaveWrite{%
7282 \begingroup

```

```

7283 \toks@\expandafter{\ttl@savewrite}%
7284 \edef\x{\endgroup
7285 \def\noexpand\ttl@savewrite{%
7286 \let\noexpand\@currentHref
7287 \noexpand\ttl@Hy@SavedCurrentHref
7288 \the\toks@
7289 }%
7290 }%
7291 \x
7292 }%
7293 \def\ttl@Hy@refstepcounter#1{%
7294 \let\ttl@b\Hy@raisedlink
7295 \def\Hy@raisedlink##1{%
7296 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7297 }%
7298 \refstepcounter{#1}%
7299 \let\Hy@raisedlink\ttl@b
7300 }%
7301 }{}

Package titletoc support:
7302 \@ifpackageloaded{titletoc}{%
7303 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
7304 }{}

```

### 33 Package varioref support

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

```

7305 \def\Hy@varioref@undefined{??}{??}{-}{-}{-}
7306 \@ifpackageloaded{varioref}{%
7307 \def\vref@pagenum#1#2{%
7308 \@ifundefined{r@#2}{%
7309 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7310 }{}%
7311 \edef#1{\getpagerefnumber{#2}}%
7312 }%
7313 }{}

```

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

```

7314 \def\Hy@varioref@refstepcounter#1{%
7315 \stepcounter{#1}%
7316 \protected@edef\@currentlabel{%
7317 \csname p@#1\expandafter\endcsname\csname the#1\endcsname
7318 }%
7319 }
7320 \AtBeginDocument{%
7321 \ifx\refstepcounter\Hy@varioref@refstepcounter
7322 \let\H@refstepcounter\refstepcounter
7323 \let\refstepcounter\Hy@saved@refstepcounter
7324 \fi
7325 }

```



## 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

```

7326 \@ifpackageloaded{longtable}{%
7327   \begingroup
7328   \def\y{\LT@array}%
7329   \@ifundefined{scr@LT@array}{%
7330     \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}{%
7331       \def\y{\scr@LT@array}}%
7332   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7333     \expandafter\endgroup
7334     \expandafter\def\y[##1]##2{%
7335       \H@refstepcounter{#1}%
7336       \hyper@makecurrent{table}%
7337       \let\Hy@LT@currentHref\@currentHref
7338       #2\@sharp###4%
7339     }%
7340   }%
7341   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

7342   \begingroup
7343   \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7344     \endgroup
7345     \def\LT@start{%
7346       #1%
7347       \ifvoid\LT@foot#2\fi
7348       \let\@currentHref\Hy@LT@currentHref
7349       \Hy@raisedlink{%
7350         \hyper@anchorstart{\@currentHref}\hyper@anchorend
7351       }%
7352       #3%
7353     }%
7354   }%
7355   \expandafter\x\LT@start\@nil
7356 }{}

```

## 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.

```

7357 \let\new@refstepcounter\refstepcounter
7358 \let\H@equation\equation
7359 \let\H@endequation\endequation

7360 \@ifpackageloaded{amsmath}{%
7361   \long\def\Hy@temp{%
7362     \incr@eqnum
7363     \mathdisplay@push

```

```

7364 \st@rredfalse \global\@eqnswtrue
7365 \mathdisplay{equation}%
7366 }%
7367 \ifx\Hy@temp\equation
7368 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7369 \csname iftrue\endcsname
7370 \else
7371 \long\def\equation{%
7372 \mathdisplay@push
7373 \st@rredfalse \global\@eqnswtrue
7374 \mathdisplay{equation}%
7375 \incr@eqnum
7376 }%
7377 \fi
7378 \fi
7379 }{%
7380 \def\equation{%
7381 \let\refstepcounter\H@refstepcounter
7382 \H@equation
7383 \@ifundefined{theHequation}{%
7384 \make@stripped@name{\theequation}%
7385 \let\theHequation\newname
7386 }{}%
7387 \hyper@makecurrent{equation}%

```

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

```

7388 \mathopen{%
7389 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7390 }%
7391 \let\refstepcounter\new@refstepcounter
7392 }%
7393 \def\endequation{%
7394 \ifx\Hy@raisedlink\ltx@empty
7395 \hyper@anchorend
7396 \else
7397 \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7398 \fi
7399 \H@endequation
7400 }%
7401 }

```

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.

```

7402 \newif\if@eqnstar
7403 \@eqnstarfalse
7404 \let\H@eqnarray\eqnarray
7405 \let\H@endeqnarray\endeqnarray
7406 \def\eqnarray{%
7407 \let\Hy@reserved@a\relax
7408 \def\@currentHref{}%
7409 \H@eqnarray
7410 \if@eqnstar
7411 \else
7412 \ifx\\\@currentHref\\%
7413 \else

```

```

7414 \ifundefined{theHequation}{%
7415 \make@stripped@name{\theequation}%
7416 \let\theHequation\newname
7417 }{}%
7418 \hyper@makecurrent{equation}%
7419 \mathopen{%
7420 \Hy@raisedlink{%
7421 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7422 }%
7423 }%
7424 \fi
7425 \fi
7426 }
7427 \def\endeqnarray{%
7428 \H@endeqnarray
7429 }

```

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.

```

7430 \@namedef{eqnarray*}{%
7431 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
7432 }
7433 \@namedef{endeqnarray*}{%
7434 \nonumber\endeqnarray\@eqnstarfalse
7435 }

```

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

```

7436 \ltx@ifundefined{subeqnarray}{}{%
7437 \let\H@subeqnarray\subeqnarray
7438 \let\H@endsubeqnarray\endsubeqnarray
7439 \def\subeqnarray{%
7440 \let\Hy@reserved@a\relax
7441 \H@subeqnarray
7442 \@ifundefined{theHequation}{%
7443 \make@stripped@name{\theequation}%
7444 \let\theHequation\newname
7445 }{}%
7446 \hyper@makecurrent{equation}%
7447 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
7448 }%
7449 \def\endsubeqnarray{%
7450 \H@endsubeqnarray
7451 }%
7452 \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7453 }

```

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

```

7454 \def\make@stripped@name#1{%
7455 \begingroup
7456 \escapechar\m@ne
7457 \global\let\newname\@empty
7458 \protected@edef\Hy@tempa{#1}%
7459 \edef\@tempb{%
7460 \noexpand\@tfor\noexpand\Hy@tempa:=%
7461 \expandafter\strip@prefix\meaning\Hy@tempa

```

```

7462 }%
7463 \@tempb\do{%
7464   \if{\Hy@tempa\else
7465     \if{\Hy@tempa\else
7466       \xdef\newname{\newname\Hy@tempa}%
7467     \fi
7468   \fi
7469 }%
7470 \endgroup
7471 }

```

Support for amsmath's subequations:

```

7472 \begingroup\expandafter\expandafter\expandafter\endgroup
7473 \expandafter\ifx\csname subequations\endcsname\relax
7474 \else
7475   \let\HyOrg@subequations\subequations
7476   \def\subequations{%
7477     \stepcounter{equation}%
7478     \protected@edef\theHparentequation{%
7479       \ifundefined{theHequation}\theequation\theHequation
7480     }%
7481     \addtocounter{equation}{-1}%
7482     \HyOrg@subequations
7483     \def\theHequation{\theHparentequation\alph{equation}}%
7484     \ignorespaces
7485   }%
7486 \fi

```

Support for package amsthm (Daniel Müllner):

```

7487 \@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

7488 \def\Hy@temp#1#2#3{%
7489   \ifhmode\unskip\unskip\par\fi
7490   \normalfont
7491   \trivlist
7492   \let\thmheadnl\relax
7493   \let\thm@swap\@gobble
7494   \let\thm@indent\indent % indent
7495   \thm@headfont{\scshape}% heading font small caps
7496   \thm@notefont{\fontseries\mddefault\upshape}%
7497   \thm@headpunct{.}% add period after heading
7498   \thm@headsep 5\p@ plus\p@ minus\p@\relax
7499   \thm@space@setup
7500   #1% style overrides
7501   \@topsep \thm@preskip % used by thm head
7502   \@topsepadd \thm@postskip % used by \@endparenv
7503   \def\@tempa{#2}\ifx\@empty\@tempa
7504     \def\@tempa{\@oparg{\@begintheorem{#3}{}}{}}%
7505   \else
7506     \refstepcounter{#2}%
7507     \def\@tempa{%
7508       \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}%
7509   }%
7510 \fi

```

```

7511 \@tempa
7512 }%
7513 \ifx\Hy@temp\@thm
7514 \def\@thm#1#2#3{%
7515 \ifhmode
7516 \unskip\unskip\par
7517 \fi
7518 \normalfont
7519 \trivlist
7520 \let\thmheadnl\relax
7521 \let\thm@swap\@gobble
7522 \let\thm@indent\indent % indent
7523 \thm@headfont{\scshape}% heading font small caps
7524 \thm@notefont{\fontseries\mddefault\upshape}%
7525 \thm@headpunct{.}% add period after heading
7526 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7527 \thm@space@setup
7528 #1% style overrides
7529 \@topsep \thm@preskip % used by thm head
7530 \@topsepadd \thm@postskip % used by \@endparenv
7531 \def\dth@counter{#2}%
7532 \ifx\@empty\dth@counter
7533 \def\@tempa{%
7534 \@oparg{\@begintheorem{#3}{}}{}%
7535 }%
7536 \else
7537 \H@refstepcounter{#2}%
7538 \hyper@makecurrent{#2}%
7539 \let\Hy@dth@currentHref\@currentHref
7540 \def\@tempa{%
7541 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7542 }%
7543 \fi
7544 \@tempa
7545 }%
7546 \else
7547 \def\@thm#1#2#3{%
7548 \ifhmode
7549 \unskip\unskip\par
7550 \fi
7551 \normalfont
7552 \trivlist
7553 \let\thmheadnl\relax
7554 \let\thm@swap\@gobble
7555 \thm@notefont{\fontseries\mddefault\upshape}%
7556 \thm@headpunct{.}% add period after heading
7557 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7558 \thm@space@setup
7559 #1% style overrides
7560 \@topsep \thm@preskip % used by thm head
7561 \@topsepadd \thm@postskip % used by \@endparenv
7562 \def\dth@counter{#2}%
7563 \ifx\@empty\dth@counter
7564 \def\@tempa{%
7565 \@oparg{\@begintheorem{#3}{}}{}%
7566 }%
7567 \else

```

```

7568 \H@refstepcounter{#2}%
7569 \hyper@makecurrent{#2}%
7570 \let\Hy@dth@currentHref\@currentHref
7571 \def\@tempa{%
7572 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7573 }%
7574 \fi
7575 \@tempa
7576 }%
7577 \fi
7578 \dth@everypar={%
7579 \@minipagefalse
7580 \global\@newlistfalse
7581 \@noparitemfalse
7582 \if@inlabel
7583 \global\@inlabelfalse
7584 \begingroup
7585 \setbox\z@\lastbox
7586 \ifvoid\z@
7587 \kern-\itemindent
7588 \fi
7589 \endgroup
7590 \ifx\@empty\dth@counter
7591 \else
7592 \Hy@raisedlink{%
7593 \hyper@anchorstart{%
7594 \ltx@ifundefined{Hy@dth@currentHref}%
7595 \@currentHref\Hy@dth@currentHref
7596 }\hyper@anchorend
7597 }%
7598 \fi
7599 \unhbox\@labels
7600 \fi
7601 \if@nobreak
7602 \@nobreakfalse \clubpenalty\@M
7603 \else
7604 \clubpenalty\@clubpenalty \everypar{}%
7605 \fi
7606 }%
7607 }{}

```

## 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.

```

7608 \ifHy@hyperfootnotes
7609 \newcounter{Hfootnote}%
7610 \let\H@@footnotetext\@footnotetext
7611 \let\H@@footnotemark\@footnotemark
7612 \def\@xfootnotenext[#1]{%
7613 \begingroup
7614 \csname c@\@mpfn\endcsname #1\relax
7615 \unrestored@protected@xdef\@thefnmark{\thempfn}%

```

```

7616 \endgroup
7617 \ifx\@footnotetext\@mpfootnotetext
7618 \expandafter\H@@mpfootnotetext
7619 \else
7620 \expandafter\H@@footnotetext
7621 \fi
7622 }%
7623 \def\@xfootnotemark[#1]{%
7624 \begingroup
7625 \c@footnote #1\relax
7626 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7627 \endgroup
7628 \H@@footnotemark
7629 }%
7630 \let\H@@mpfootnotetext\@mpfootnotetext
7631 \long\def\@mpfootnotetext#1{%
7632 \H@@mpfootnotetext{%
7633 \ifHy@nesting
7634 \expandafter\ltx@firstoftwo
7635 \else
7636 \expandafter\ltx@secondoftwo
7637 \fi
7638 {%
7639 \expandafter\hyper@@anchor\expandafter{%
7640 \Hy@footnote@currentHref
7641 }{#1}%
7642 }{%
7643 \Hy@raisedlink{%
7644 \expandafter\hyper@@anchor\expandafter{%
7645 \Hy@footnote@currentHref
7646 }{\relax}%
7647 }#1%
7648 }%
7649 }%
7650 }%
7651 \long\def\@footnotetext#1{%
7652 \H@@footnotetext{%
7653 \ifHy@nesting
7654 \expandafter\ltx@firstoftwo
7655 \else
7656 \expandafter\ltx@secondoftwo
7657 \fi
7658 {%
7659 \expandafter\hyper@@anchor\expandafter{%
7660 \Hy@footnote@currentHref
7661 }{#1}%
7662 }{%
7663 \Hy@raisedlink{%
7664 \expandafter\hyper@@anchor\expandafter{%
7665 \Hy@footnote@currentHref
7666 }{\relax}%
7667 }%
7668 \let\@currentHref\Hy@footnote@currentHref
7669 \let\@currentlabelname\@empty
7670 #1%
7671 }%
7672 }%

```

7673 }%

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.

```

7674 \def\@footnotemark{%
7675   \leavevmode
7676   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
7677   \stepcounter{Hfootnote}%
7678   \global\let\Hy@saved@currentHref\@currentHref
7679   \hyper@makecurrent{Hfootnote}%
7680   \global\let\Hy@footnote@currentHref\@currentHref
7681   \global\let\@currentHref\Hy@saved@currentHref
7682   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7683   \@makefnmark
7684   \hyper@linkend
7685   \ifhmode\spacefactor\x@sf\fi
7686   \relax
7687 }%
```

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

```

7688 \@ifpackageloaded{tabularx}{%
7689   \let\HyOrg@TX@endtabularx\TX@endtabularx
7690   \def\Hy@tabularx@hook{%
7691     \let\@footnotetext\H@@footnotetext
7692     \let\@footnotemark\H@@footnotemark
7693     \let\@mpfootnotetext\H@@mpfootnotetext
7694   }%
7695   \begingroup
7696     \toks@\expandafter{\TX@endtabularx}%
7697     \xdef\Hy@gtemp{%
7698       \noexpand\Hy@tabularx@hook
7699       \the\toks@
7700     }%
7701   \endgroup
7702   \let\TX@endtabularx\Hy@gtemp
7703 }{ }%
```

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

```

7704 \@ifpackageloaded{longtable}{%
7705   \CheckCommand*{\LT@p@ftntext}[1]{%
7706     \edef\@tempa{%
7707       \the\LT@p@ftn
7708       \noexpand\footnotetext[\the\c@footnote]%
7709     }%
7710     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7711   }%
7712   \long\def\LT@p@ftntext#1{%
7713     \edef\@tempa{%
7714       \the\LT@p@ftn
7715       \begingroup
7716       \noexpand\c@footnote=\the\c@footnote\relax
```



```

7717 \noexpand\protected@xdef\noexpand\@thefnmark{%
7718 \noexpand\thempfn
7719 }%
7720 \noexpand\Hy@LT@footnotetext{%
7721 \Hy@footnote@currentHref
7722 }%
7723 }%
7724 \global\LT@p@ftn\expandafter{%
7725 \@tempa{#1}%
7726 \endgroup
7727 }%
7728 }%
7729 \long\def\Hy@LT@footnotetext#1#2{%
7730 \H@@@footnotetext{%
7731 \ifHy@nesting
7732 \hyper@@anchor{#1}{#2}%
7733 \else
7734 \Hy@raisedlink{%
7735 \hyper@@anchor{#1}{\relax}%
7736 }%
7737 \def\@currentHref{#1}%
7738 \let\@currentlabelname\@empty
7739 #2%
7740 \fi
7741 }%
7742 }%
7743 }{}%

```

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

```

7744 \@ifpackageloaded{fancyvrb}{%
7745 \def\V@@@footnotetext{%
7746 \insert\footins\bgroup
7747 \csname reset@font\endcsname
7748 \footnotesize
7749 \interlinepenalty\interfootnotelinepenalty
7750 \splittopskip\footnotesep
7751 \splitmaxdepth\dp\strutbox
7752 \floatingpenalty \@MM
7753 \hsize\columnwidth
7754 \@parboxrestore
7755 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7756 \@makefntext{}%
7757 \rule{\z@}{\footnotesep}%
7758 \bgroup
7759 \aftergroup\V@@@footnotetext
7760 \Hy@raisedlink{%
7761 \expandafter\hyper@@anchor\expandafter{%
7762 \Hy@footnote@currentHref
7763 }{\relax}%
7764 }%
7765 \let\@currentHref\Hy@footnote@currentHref
7766 \let\@currentlabelname\@empty
7767 \ignorespaces
7768 }%
7769 }{}%

```

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

```

7770 \def\Hy@temp#1{%
7771   \begingroup
7772   \unrestored@protected@xdef\@thefnmark{\ref{#1}}}%
7773   \endgroup
7774   \@footnotemark
7775 }%
7776 \ifx\Hy@temp\footref
7777   \def\footref#1{%
7778     \begingroup
7779     \unrestored@protected@xdef\@thefnmark{\ref{#1}}}%
7780     \endgroup
7781     \H@@@footnotemark
7782   }%
7783 \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.

```

7784 \let\HyOrg@maketitle\maketitle
7785 \def\maketitle{%
7786   \let\Hy@saved@footnotemark\@footnotemark
7787   \let\Hy@saved@footnotetext\@footnotetext
7788   \let\@footnotemark\H@@@footnotemark
7789   \let\@footnotetext\H@@@footnotetext
7790   \@ifnextchar[\Hy@maketitle@optarg{% ]
7791     \HyOrg@maketitle
7792     \Hy@maketitle@end
7793   }%
7794 }%
7795 \def\Hy@maketitle@optarg[#1]{%
7796   \HyOrg@maketitle[#1]}%
7797   \Hy@maketitle@end
7798 }%
7799 \def\Hy@maketitle@end{%
7800   \ifx\@footnotemark\H@@@footnotemark
7801     \let\@footnotemark\Hy@saved@footnotemark
7802   \fi
7803   \ifx\@footnotetext\H@@@footnotetext
7804     \let\@footnotetext\Hy@saved@footnotetext
7805   \fi
7806 }%

```

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

```

7807 \def\realfootnote{%
7808   \@ifnextchar[\@xfootnote{%
7809     \stepcounter{\@mpfn}%
7810     \protected@xdef\@thefnmark{\thempfn}%
7811     \H@@@footnotemark\H@@@footnotetext
7812   }%
7813 }%
7814 \fi
7815 \Hy@DisableOption{hyperfootnotes}
7816 \</package>
7817 \< *check>
7818 \checklatex
7819 \checkcommand\def\@xfootnotenext[#1]{%

```

```

7820 \begingroup
7821 \csname c@\@mpfn\endcsname #1\relax
7822 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7823 \endgroup
7824 \@footnotetext
7825 }
7826 \checkcommand\def\@xfootnotemark[#1]{%
7827 \begingroup
7828 \c@footnote #1\relax
7829 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7830 \endgroup
7831 \@footnotemark
7832 }
7833 \checkcommand\def\@footnotemark{%
7834 \leavevmode
7835 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7836 \@makefnmark
7837 \ifhmode\spacefactor\@x@sf\fi
7838 \relax
7839 }
7840 </check>
7841 <*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.

```

7842 \def\caption{%
7843 \ifx\@captive\@undefined
7844 \latex@error{\noexpand\caption outside float}\@ehd
7845 \expandafter\@gobble
7846 \else
7847 \H@refstepcounter\@captive
7848 \let\Hy@tempa\@caption
7849 \@ifundefined{float@caption}{%
7850 }{%
7851 \expandafter\ifx\csname @float@c@\@captive\endcsname
7852 \float@caption
7853 \let\Hy@tempa\Hy@float@caption
7854 \fi
7855 }%
7856 \expandafter\@firstofone
7857 \fi
7858 {\@dblarg{\Hy@tempa\@captive}}%
7859 }
7860 \long\def\@caption#1[#2]#3{%
7861 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7862 \csname iftrue\endcsname
7863 \global\let\@currentHref\hc@currentHref
7864 \else
7865 \hyper@makecurrent{\@captive}%
7866 \fi
7867 \@ifundefined{NR@getttitle}{%
7868 \def\@currentlabelname{#2}%
7869 }{%
7870 \NR@getttitle{#2}%

```

```

7871 }%
7872 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7873 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7874 }%
7875 \beginngroup
7876 \@@parboxrestore
7877 \if@minipage
7878 \@@setminipage
7879 \fi
7880 \normalsize
7881 \expandafter\ifx\csname if@capstart\endcsname
7882 \csname iftrue\endcsname
7883 \global\@capstartfalse
7884 \@@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7885 \else
7886 \@@makecaption{\csname fnum@#1\endcsname}{%
7887 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7888 \ifHy@nesting
7889 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7890 \else
7891 \Hy@raisedlink{%
7892 \expandafter\hyper@@anchor\expandafter{%
7893 \@currentHref
7894 }{\relax}%
7895 }%
7896 #3%
7897 \fi
7898 }%
7899 \fi
7900 \par
7901 \endgroup
7902 }

```

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’.

```

7903 \let\Hy@float@caption\@caption
7904 \newcommand{\HyNew@float@makebox}[1]{%
7905 \HyOrg@float@makebox{%
7906 #1\relax
7907 \ifx\Hy@float@currentHref\@undefined
7908 \else
7909 \expandafter\hyper@@anchor\expandafter{%
7910 \Hy@float@currentHref
7911 }{\relax}%
7912 \global\let\Hy@float@currentHref\@undefined
7913 \fi
7914 }%
7915 }%
7916 \ifpackageloaded{float}{%
7917 \def\Hy@float@caption{%
7918 \ifx\Hy@float@currentHref\@undefined
7919 \hyper@makecurrent{\@cuptype}%
7920 \global\let\Hy@float@currentHref\@currentHref

```

```

7921 \else
7922 \let\@currentHref\Hy@float@currentHref
7923 \fi
7924 \float@caption
7925 }%
7926 \let\HyOrg@float@makebox\float@makebox
7927 \let\float@makebox\HyNew@float@makebox
7928 }{}

7929 \end{package}
7930 \check{
7931 \checklatex[1999/06/01 - 2000/06/01]
7932 \checkcommand\def\caption{%
7933 \ifx\@capttype\@undefined
7934 \@latex@error{\noexpand\caption outside float}\@ehd
7935 \expandafter\@gobble
7936 \else
7937 \refstepcounter\@capttype
7938 \expandafter\@firstofone
7939 \fi
7940 {\@dblarg{\@caption\@capttype}}}%
7941 }
7942 \checkcommand\long\def\@caption#1[#2]#3{%
7943 \par
7944 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7945 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7946 }%
7947 \begingroup
7948 \@parboxrestore
7949 \if@minipage
7950 \@setminipage
7951 \fi
7952 \normalsize
7953 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7954 \endgroup
7955 }
7956 \end{check}
7957 \end{package}

```

## 38 Bibliographic references

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

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

```

7958 \def\hyper@natlinkstart#1{%
7959 \Hy@backout{#1}%
7960 \hyper@linkstart{cite}{cite.#1}%
7961 \def\hyper@nat@current{#1}%
7962 }
7963 \def\hyper@natlinkend{%
7964 \hyper@linkend

```

```

7965 }
7966 \def\hyper@natlinkbreak#1#2{%
7967   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7968 }
7969 \def\hyper@natanchorstart#1{%
7970   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7971 }
7972 \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.

```

7973 \ltx@ifundefined{NAT@parse}{%
7974   \providecommand*\@extra@binfo{}%
7975   \providecommand*\@extra@b@citeb{}%
7976   \def\bibcite#1#2{%
7977     \@newl@bel{b}{#1\@extra@binfo}{%
7978       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7979     }%
7980   }%
7981   \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.”.

```

7982 \let\Hy@bibcite\bibcite
7983 \begingroup
7984   \@ifundefined{bbl@cite@choice}{}{%
7985     \g@addto@macro\bbl@cite@choice{%
7986       \let\bibcite\Hy@bibcite
7987     }%
7988   }%
7989 \endgroup

```

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

```

7990 \providecommand*\@BIBLABEL{\@biblabel}%
7991 \def\@bibitem[#1]#2{%
7992   \@skiphyperreftrue
7993   \H@item[%
7994     \ifx\Hy@raisedlink\@empty
7995       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7996       \@BIBLABEL{#1}%
7997       \hyper@anchorend
7998     \else
7999       \Hy@raisedlink{%
8000         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
8001       }%
8002       \@BIBLABEL{#1}%
8003     \fi
8004     \hfill
8005   ]%
8006   \@skiphyperreffalse
8007   \if@filesw
8008     \begingroup
8009       \let\protect\noexpand
8010       \immediate\write\@auxout{%
8011         \string\bibcite{#2}{#1}%
8012       }%

```

```

8013 \endgroup
8014 \fi
8015 \ignorespaces
8016 }%

```

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

```

8017 \def\@bibitem#1{%
8018 \@skiphyperreftrue\H@item\@skiphyperreffalse
8019 \Hy@raisedlink{%
8020 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
8021 }%
8022 \if@filesw
8023 \begingroup
8024 \let\protect\noexpand
8025 \immediate\write\@auxout{%
8026 \string\bibcite{#1}{\the\value{\@listctr}}}%
8027 }%
8028 \endgroup
8029 \fi
8030 \ignorespaces
8031 }%
8032 }{}

8033 \</package>
8034 \< *check>
8035 \checklatex
8036 \checkcommand\def\@lbibitem[#1]#2{%
8037 \item[\@biblabel{#1}\hfill]%
8038 \if@filesw
8039 {%
8040 \let\protect\noexpand
8041 \immediate\write\@auxout{%
8042 \string\bibcite{#2}{#1}%
8043 }%
8044 }%
8045 \fi
8046 \ignorespaces
8047 }
8048 \checkcommand\def\@bibitem#1{%
8049 \item
8050 \if@filesw
8051 \immediate\write\@auxout{%
8052 \string\bibcite{#1}{\the\value{\@listctr}}}%
8053 }%
8054 \fi
8055 \ignorespaces
8056 }
8057 \</check>
8058 \< *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.

```

8059 \ifclassloaded{revtex}{%
8060 \Hy@Info{*** compatibility with revtex **** }%
8061 \def\revtex@checking#1#2{%
8062 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname

```

```

8063 \expandafter\def\csname b@#1\endcsname{#2}%
8064 \SetMaxRnhelLabel{#1}%
8065 \expandafter\let\csname b@#1\endcsname\T@temp
8066 }%

```

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

```

8067 \ifundefined{@CITE}{\def\CITE{\@cite}}}%
8068 \providecommand*\@extra@b@citeb{}%
8069 \def\CITEX[#1]#2{%
8070 \let\@citea\@empty
8071 \leavevmode
8072 \unskip
8073 $~{%
8074 \scriptstyle
8075 \@CITE{%
8076 \@for\@citeb:=#2\do{%
8077 \@citea
8078 \def\@citea{,\penalty\@m\ }%
8079 \edef\@citeb{\expandafter\@firstofone\@citeb}%
8080 \if@filesw
8081 \immediate\write\@auxout{\string\citation{\@citeb}}%
8082 \fi
8083 \ifundefined{b@\@citeb\extra@b@citeb}{%
8084 \mbox{\reset@font\bfseries ?}%
8085 \G@refundefinedtrue
8086 \@latex@warning{%
8087 Citation ‘\@citeb’ on page \thepage \space undefined%
8088 }%
8089 }%
8090 {\csname b@\@citeb\@extra@b@citeb\endcsname}%
8091 }%
8092 }%
8093 }{#1}%
8094 }$%
8095 }%

```

No, life is too short. I am not going to understand the Rev<sub>tex</sub> \collapse macro, I shall just restore the original behaviour of \citex; sigh. This is SO vile.

```

8096 \def\citex[#1]#2{%
8097 \let\@citea\@empty
8098 \@cite{%
8099 \@for\@citeb:=#2\do{%
8100 \@citea
8101 \def\@citea{,\penalty\@m\ }%
8102 \edef\@citeb{\expandafter\@firstofone\@citeb}%
8103 \if@filesw
8104 \immediate\write\@auxout{\string\citation{\@citeb}}%
8105 \fi
8106 \ifundefined{b@\@citeb\@extra@b@citeb}{%
8107 \mbox{\reset@font\bfseries ?}%
8108 \G@refundefinedtrue
8109 \@latex@warning{%
8110 Citation ‘\@citeb’ on page \thepage \space undefined%
8111 }%
8112 }%
8113 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
8114 }%

```



```

8115 }%
8116 }{#1}%
8117 }%
8118 }{}

```

## 38.1 Package harvard

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

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

```

8119 \@ifpackageloaded{harvard}{%
8120   \Hy@AtBeginDocument{%
8121     \Hy@Info{*** compatibility with harvard **** }%
8122     \Hy@raiselinksfalse
8123     \def\harvardcite#1#2#3#4{%
8124       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{#1}{#2}}%
8125       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{#1}{#3}}%
8126       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{#1}{#4}}%
8127       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
8128     }%
8129     \def\HAR@citetoaux#1{%
8130       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
8131       \ifHy@backref
8132         \ifx\@empty\@currentlabel
8133         \else
8134           \@bsphack
8135           \if@filesw
8136             \protected@write\@auxout{}{%
8137               \string\@writefile{brf}{%
8138                 \string\backcite{#1}{%
8139                   {thepage}{\@currentlabel}{\@currentHref}%
8140                 }%
8141               }%
8142             }%
8143           \fi
8144           \@esphack
8145         \fi
8146       \fi
8147     }%
8148     \def\harvarditem{%
8149       \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
8150     }%
8151     \def\@harvarditem[#1]#2#3#4#5\par{%
8152       \item[]%
8153       \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
8154       \if@filesw
8155         \begingroup
8156         \def\protect##1{\string ##1\space}%
8157         \ifthenelse{\equal{#1}{\null}}{%
8158           {\def\next{{#4}{#2}{#3}}}%
8159           {\def\next{{#4}{#2}{#1}{#3}}}%
8160         \immediate\write\@auxout{\string\harvardcite\codeof\next}%

```

```

8161 \endgroup
8162 \fi
8163 \protect\hspace*{-\labelwidth}%
8164 \protect\hspace*{-\labelsep}%
8165 \ignorespaces
8166 #5%
8167 \ifHy@backref
8168 \newblock
8169 \backref{\csname br@#4\endcsname}%
8170 \fi
8171 \par
8172 }%

```

\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:

```

8173 \long\def\HAR@checkcitations#1#2#3#4{%
8174 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
8175 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
8176 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
8177 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
8178 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
8179 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
8180 \else
8181 \@tempswatrue
8182 \fi
8183 \else
8184 \@tempswatrue
8185 \fi
8186 \else
8187 \@tempswatrue
8188 \fi
8189 }%
8190 }%
8191 {}

```

## 38.2 Package chicago

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

```

8192 \@ifpackageloaded{chicago}{%

```

\citeN

```

8193 \def\citeN{%
8194 \def\@citesep{~1000}%
8195 \def\@cite##1##2{##1}%
8196 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
8197 \@citedata@opt
8198 }%

```

\shortciteN

```

8199 \def\shortciteN{%
8200 \def\@citesep{~1000}%
8201 \def\@cite##1##2{##1}%
8202 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
8203 \@citedata@opt
8204 }%

```

\@citedata@opt

```
8205 \def\@citedata@opt{%
8206   \let\@cite@opt\@empty
8207   \@ifnextchar [{%
8208     \@tempswatrue
8209     \@citedatax@opt
8210   }{%
8211     \@tempswafalse
8212     \@citedatax[]%
8213   }%
8214 }%
```

\@citedatax@opt

```
8215 \def\@citedatax@opt[#1]{%
8216   \def\@cite@opt{, #1}%
8217   \@citedatax[{#1}]%
8218 }%

8219 }
```

## 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.

```
8220 \ltx@ifclassloaded{slides}{%
8221   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
8222   \def\Hy@PageAnchorSlidesPlain{%
8223     \advance\c@page\ltx@one
8224     \edef\Hy@TempPageAnchor{%
8225       \noexpand\hyper@@anchor{%
8226         page.\the\c@slide.\the\c@overlay.\the\c@note%
8227         \ifnum\c@page=\ltx@one
8228           \else
8229             .\the\c@page
8230         \fi
8231       }%
8232     }%
8233     \advance\c@page-\ltx@one
8234   }%
8235   \def\Hy@PageAnchorSlide{%
8236     \advance\c@page\ltx@one
8237     \ifnum\c@page>\ltx@one
8238       \ltx@ifundefined{theHpage}{%
8239         \protected@edef\Hy@TheSlideOptionalPage{%
8240           \Hy@SlidesFormatOptionalPage{theHpage}%
8241         }%
8242       }{%
8243         \protected@edef\Hy@TheSlideOptionalPage{%
8244           \Hy@SlidesFormatOptionalPage{theHpage}%
8245         }%
8246       }%
8247     \else
```

```

8248 \def\Hy@TheSlideOptionalPage{}%
8249 \fi
8250 \advance\c@page-\ltx@one
8251 \pdfstringdef\@the@H@page{%
8252 \csname
8253 the%
8254 \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
8255 \Hy@SlidesPage
8256 \endcsname
8257 \Hy@TheSlideOptionalPage
8258 }%
8259 \ltx@gobblethree
8260 }%
8261 \def\Hy@SlidesPage{slide}%
8262 \g@addto@macro\slide{%
8263 \def\Hy@SlidesPage{slide}%
8264 }%
8265 \g@addto@macro\overlay{%
8266 \def\Hy@SlidesPage{overlay}%
8267 }%
8268 \g@addto@macro\note{%
8269 \def\Hy@SlidesPage{note}%
8270 }%
8271 }{%
8272 \def\Hy@PageAnchorSlidesPlain{}%
8273 \def\Hy@PageAnchorSlide{}%
8274 }
8275 \def\Hy@EveryPageAnchor{%
8276 \Hy@DistillerDestFix
8277 \ifHy@pageanchor
8278 \ifHy@hypertexnames
8279 \ifHy@plainpages
8280 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
8281 \Hy@PageAnchorSlidesPlain
8282 \else
8283 \begingroup
8284 \let\@number\@firstofone
8285 \Hy@unicodefalse
8286 \Hy@PageAnchorSlide
8287 \pdfstringdef\@the@H@page{\thepage}%
8288 \endgroup
8289 \EdefUnescapeString\@the@H@page{\@the@H@page}%
8290 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
8291 \fi
8292 \else
8293 \Hy@GlobalStepCount\Hy@pagecounter
8294 \def\Hy@TempPageAnchor{%
8295 \hyper@@anchor{page.\the\Hy@pagecounter}%
8296 }%
8297 \fi
8298 \vbox to 0pt{%
8299 \kern\voffset
8300 \kern\topmargin
8301 \kern-1bp\relax
8302 \hbox to 0pt{%
8303 \kern\hoffset
8304 \kern@ifodd\value{page}%

```

```

8305         \oddsidemargin
8306         \else
8307         \evensidemargin
8308     \fi
8309     \kern-1bp\relax
8310     \Hy@TempPageAnchor\relax
8311     \hss
8312 }%
8313 \vss
8314 }%
8315 \fi
8316 }
8317 \g@addto@macro\Hy@EveryPageBoxHook{%
8318 \Hy@EveryPageAnchor
8319 }

```

## 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.

```

8320 \def\addcontentsline#1#2#3{% toc extension, type, tag
8321 \begingroup
8322 \let\label\@gobble
8323 \ifx\@currentHref\@empty
8324 \Hy@Warning{%
8325 No destination for bookmark of \string\addcontentsline,%
8326 \MessageBreak destination is added%
8327 }%
8328 \phantomsection
8329 \fi
8330 \expandafter\ifx\csname toplevel@#2\endcsname\relax
8331 \begingroup
8332 \def\Hy@tempa{#1}%
8333 \ifx\Hy@tempa\Hy@bookmarkstype
8334 \Hy@WarningNoLine{%
8335 bookmark level for unknown #2 defaults to 0%
8336 }%
8337 \else
8338 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8339 \fi
8340 \endgroup
8341 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
8342 \fi
8343 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
8344 \Hy@writebookmark{\csname the#2\endcsname}%
8345 {#3}%
8346 {\@currentHref}%
8347 {\Hy@toplevel}%
8348 {#1}%
8349 \ifHy@verbose
8350 \begingroup
8351 \def\Hy@tempa{#3}%
8352 \@onelevel@sanitize\Hy@tempa
8353 \let\temp@online\on@line
8354 \let\on@line\@empty

```

```

8355 \Hy@Info{%
8356 bookmark\temp@online:\MessageBreak
8357 thecounter {\csname the#2\endcsname}\MessageBreak
8358 text {\Hy@tempa}\MessageBreak
8359 reference {\@currentHref}\MessageBreak
8360 toplevel {\Hy@toclevel}\MessageBreak
8361 type {#1}%
8362 }%
8363 \endgroup
8364 \fi
8365 \addtocontents{#1}{%
8366 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
8367 }%
8368 \endgroup
8369 }

```

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

```

8370 \def\contentsline#1#2#3#4{%
8371 \begingroup
8372 \Hy@safe@activestrue
8373 \edef\x{\endgroup
8374 \def\noexpand\Hy@tocdestname{#4}%
8375 }\x
8376 \ifx\Hy@tocdestname\ltx@empty
8377 \csname l@#1\endcsname{#2}{#3}%
8378 \else
8379 \ifcase\Hy@linktoc % none
8380 \csname l@#1\endcsname{#2}{#3}%
8381 \or % section
8382 \csname l@#1\endcsname{%
8383 \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8384 }{#3}%
8385 \or % page
8386 \def\Hy@temp{#3}%
8387 \ifx\Hy@temp\ltx@empty
8388 \csname l@#1\endcsname{#2}{#3}%
8389 \else
8390 \csname l@#1\endcsname{#2}{#3}%
8391 \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8392 }%
8393 \fi
8394 \else % all
8395 \def\Hy@temp{#3}%
8396 \ifx\Hy@temp\ltx@empty
8397 \csname l@#1\endcsname{%
8398 \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8399 }{}%
8400 \else
8401 \csname l@#1\endcsname{%
8402 \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8403 }{%
8404 \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8405 }%
8406 \fi
8407 \fi
8408 \fi

```

```

8409 }

8410 </package>
8411 <*check>
8412 \checklatex
8413 \checkcommand\def\addcontentsline#1#2#3{%
8414   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}}%
8415 }
8416 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8417 </check>
8418 <*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.

```

8419 \let\H@definecounter\@definecounter
8420 \def\@definecounter#1{%
8421   \H@definecounter{#1}%
8422   \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8423 }

```

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.

```

8424 \let\H@newctr\@newctr
8425 \def\@newctr#1[#2]{%
8426   \H@newctr#1[#2]}%
8427 \expandafter\gdef\csname theH#1\endcsname{%
8428   \csname the\@ifundefined{theH#2}{-}{H}#2\endcsname.\arabic{#1}%
8429 }%
8430 }

```

## 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.

```

8431 \@ifpackageloaded{amsmath}{%
8432   \def\Hy@make@anchor{%
8433     \Hy@MakeCurrentHrefAuto{AMS}%
8434     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8435   }%
8436   \def\Hy@make@df@tag@@#1{%
8437     \gdef\df@tag{%
8438       \maketag@@@{\Hy@make@anchor#1}%
8439     \def\@currentlabel{#1}%
8440   }%
8441   }%
8442   \def\Hy@make@df@tag@@@#1{%
8443     \gdef\df@tag{%
8444       \tagform@{\Hy@make@anchor#1}%
8445       \toks@{\xp{p@equation{#1}}}%

```

```

8446 \edef\@currentlabel{\the\toks@}%
8447 }%
8448 }%
8449 \let\HyOrg@make@df@tag@@\make@df@tag@@
8450 \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8451 \let\make@df@tag@@\Hy@make@df@tag@@
8452 \let\make@df@tag@@@\Hy@make@df@tag@@@
8453 }{}

```

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

```

8454 \@ifpackagewith{hyperref}{pdftex}{%
8455 \let\H@seteqlabel\@seteqlabel
8456 \def\@seteqlabel#1{%
8457 \H@seteqlabel{#1}%
8458 \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8459 \Hy@raisedlink{%
8460 \hyper@anchorstart{\@currentHref}\hyper@anchorend
8461 }%
8462 }%
8463 }{}

```

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.

```

8464 \let\HyOrg@addtoreset\@addtoreset
8465 \def\@addtoreset#1#2{%
8466 \HyOrg@addtoreset{#1}{#2}%
8467 \expandafter\xdef\csname theH#1\endcsname{%
8468 \expandafter\noexpand
8469 \csname the\@ifundefined{theH#2}{ }H#2\endcsname
8470 .\noexpand\the\noexpand\value{#1}%
8471 }%
8472 }

```

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

```

8473 </package>
8474 < *check>
8475 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8476 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8477 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8478 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8479 \@addtoreset{#2}{#3}%
8480 \@xp\xdef\csname the#2\endcsname{%

```



```

8481 \exp\@nx\csname the#3\endcsname.\@nx#1{#2}%
8482 }%
8483 }%
8484 }%
8485 }%
8486 \check
8487 \*package
8488 \ifpackageloaded{amsmath}{%
8489 \@ifpackagelater{amsmath}{1999/12/14}{%
8490 \renewcommand*{\numberwithin}{3}[\arabic]{%
8491 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8492 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8493 \HyOrg@addtoreset{#2}{#3}%
8494 \exp\xdef\csname the#2\endcsname{%
8495 \exp\@nx\csname the#3\endcsname.\@nx#1{#2}%
8496 }%
8497 \exp\xdef\csname theH#2\endcsname{%
8498 \exp\@nx
8499 \csname the\@ifundefined{theH#3}{H#3\endcsname
8500 \@nx#1{#2}%
8501 }%
8502 }%
8503 }%
8504 }%
8505 }{%
8506 \Hy@WarningNoLine{%
8507 \string\numberwithin\space of package 'amsmath' %
8508 only fixed\MessageBreak
8509 for version 2000/06/06 v2.12 or newer%
8510 }%
8511 }%
8512 }{}

```

## 43 Included figures

Simply intercept the low level graphics package macro.

```

8513 \ifHy@hyperfigures
8514 \let\Hy@Gin@setfile\Gin@setfile
8515 \def\Gin@setfile#1#2#3{%
8516 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8517 }%
8518 \fi
8519 \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.

```

8520 \ifHy@hyperindex
8521   \def\HyInd@ParenLeft{()%
8522   \def\HyInd@ParenRight{)%}
8523   \def\hyperindexformat#1#2{%
8524     \let\HyOrg@hyperpage\hyperpage
8525     \let\hyperpage\@firstofone
8526     #1{\HyOrg@hyperpage{#2}}%
8527     \let\hyperpage\HyOrg@hyperpage
8528   }%
8529   \Hy@nextfalse
8530   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8531   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8532   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8533   \begingroup
8534     \lccode'\|=\expandafter'\HyInd@EncapChar\relax
8535     \lccode'\|/'=\|\\relax
8536   \lowercase{\endgroup
8537   \ifHy@next
8538     \let\HyInd@org@wrindex\@wrindex
8539     \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
8540     \def\HyInd@@wrindex#1#2|#3|#4\{\%
8541       \ifx\|#3\%
8542         \HyInd@org@wrindex{#1}{#2|hyperpage}%
8543       \else
8544         \HyInd@@@wrindex{#1}{#2}#3\%
8545       \fi
8546     }%
8547     \def\HyInd@@@wrindex#1#2#3#4\{\%
8548     \def\Hy@temp@A{#3}%
8549     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8550       \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8551       \relax
8552       \HyInd@org@wrindex{#1}{%
8553         #2|hyperindexformat{/#3#4}%
8554       }%
8555     \else
8556       \ifx\|#4\%
8557         \ifx\Hy@temp@A\HyInd@ParenRight
8558           \HyInd@org@wrindex{#1}{#2|#3}%
8559         \else
8560           \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8561         \fi
8562       \else
8563         \HyInd@org@wrindex{#1}{%
8564           #2|#3hyperindexformat{/#4}%
8565         }%
8566       \fi
8567     \fi
8568   }%
8569   \else
8570     \def\@wrindex#1{\@@wrindex#1||\}%
8571     \def\@@wrindex#1|#2|#3\{\%
8572     \if@filesw
8573       \ifx\|#2\%
8574         \protected@write\@indexfile{}{%

```

```

8575         \string\indexentry{#1|hyperpage}{\thepage}%
8576     }%
8577     \else
8578         \HyInd@@@wrindex{#1}#2\\%
8579     \fi
8580 \fi
8581 \endgroup
8582 \@esphack
8583 }%
8584 \def\HyInd@@@wrindex#1#2#3\\{%
8585     \def\Hy@temp@A{#2}%
8586     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8587         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8588         \relax
8589     \protected@write\@indexfile{}{%
8590         \string\indexentry{%
8591             #1|hyperindexformat{/#2#3}%
8592         }{\thepage}%
8593     }%
8594     \else
8595         \ifx\\#3\\%
8596             \ifx\Hy@temp@A\HyInd@ParenRight
8597                 \protected@write\@indexfile{}{%
8598                     \string\indexentry{#1|#2}{\thepage}%
8599                 }%
8600             \else
8601                 \protected@write\@indexfile{}{%
8602                     \string\indexentry{#1|#2hyperpage}{\thepage}%
8603                 }%
8604             \fi
8605         \else
8606             \protected@write\@indexfile{}{%
8607                 \string\indexentry{%
8608                     #1|#2hyperindexformat{/#3}%
8609                 }{\thepage}%
8610             }%
8611         \fi
8612     \fi
8613 }%
8614 \fi
8615 }%
8616 \fi
8617 \Hy@DisableOption{hyperindex}
8618 \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.

```
8619 \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.

```

8620 \def\hyperpage#1{%
8621     \HyInd@hyperpage#1\nohyperpage{}\@nil
8622 }
8623 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8624     \HyInd@@@hyperpage{#1}%
8625     #2%

```

```

8626 \def\Hy@temp{#3}%
8627 \ifx\Hy@temp\@empty
8628 \else
8629 \ltx@ReturnAfterFi{%
8630 \HyInd@hyperpage#3\@nil
8631 }%
8632 \fi
8633 }
8634 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8635 \def\@hyperpage#1--#2--#3\{\{%
8636 \ifx\#2\%
8637 \@commahyperpage{#1}%
8638 \else
8639 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8640 \fi
8641 }
8642 \def\@commahyperpage#1{\@@commahyperpage#1, \}
8643 \def\@@commahyperpage#1, #2, #3\{\{%
8644 \ifx\#2\%
8645 \HyInd@pagelink{#1}%
8646 \else
8647 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8648 \fi
8649 }

```

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

```

8650 \def\HyInd@pagelink#1{%
8651 \begingroup
8652 \toks@={}%
8653 \HyInd@removespaces#1 \@nil
8654 \endgroup
8655 }
8656 \def\HyInd@removespaces#1 #2\@nil{%
8657 \toks@=\expandafter{\the\toks@#1}%
8658 \ifx\#2\%
8659 \edef\x{\the\toks@}%
8660 \ifx\x\@empty
8661 \else
8662 \hyperlink{page.\the\toks@}{\the\toks@}%
8663 \fi
8664 \else
8665 \ltx@ReturnAfterFi{%
8666 \HyInd@removespaces#2\@nil
8667 }%
8668 \fi
8669 }

```

## 45 Compatibility with foiltex

```

8670 \@ifclassloaded{foils}{%
8671 \providecommand*\ext@table{lot}%
8672 \providecommand*\ext@figure{lof}%
8673 }{}

```

## 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)).

```
8674 \@ifclassloaded{seminar}{%
8675   \Hy@seminarslidestrue
8676   \providecommand\theHslide{\arabic{slide}}%
8677 }{%
8678   \Hy@seminarslidesfalse
8679 }
8680 \@ifpackageloaded{slidesec}{%
8681   \providecommand\theHslidesection {\arabic{slidesection}}%
8682   \providecommand\theHslidesubsection{%
8683     \theHslidesection.\arabic{slidesubsection}}%
8684 }%
8685 \def\slide@heading[#1]#2{%
8686   \H@refstepcounter{slidesection}%
8687   \@addtoreset{slidesubsection}{slidesection}%
8688   \addtocontents{los}{%
8689     \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8690     {\@SCTR}{slideheading.\theslidesection}}%
8691   }%
8692   \def\Hy@tempa{#2}%
8693   \ifx\Hy@tempa\@empty
8694   \else
8695     {%
8696       \edef\@currentlabel{%
8697         \csname p@slidesection\endcsname\theslidesection
8698       }%
8699       \makeslideheading{#2}%
8700     }%
8701   \fi
8702   \gdef\theslideheading{#1}%
8703   \gdef\theslidesubheading{}%
8704   \ifHy@bookmarksnumbered
8705     \def\Hy@slidetitle{\theslidesection\space #1}%
8706   \else
8707     \def\Hy@slidetitle{#1}%
8708   \fi
8709   \ifHy@hypertextnames
8710     \ifHy@naturalnames
8711       \hyper@@anchor{slideheading.\theslidesection}{\relax}%
8712       \Hy@writebookmark
8713         {\theslidesection}%
8714         {\Hy@slidetitle}%
8715         {slideheading.\theslidesection}%
8716         {1}%
8717       {toc}%
8718     \else
8719       \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8720       \Hy@writebookmark
8721         {\theslidesection}%
8722         {\Hy@slidetitle}%
8723         {slideheading.\theHslidesection}%
8724         {1}%
8725       {toc}%
8726   \fi
```

```

8727 \else
8728 \Hy@GlobalStepCount\Hy@linkcounter
8729 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8730 \Hy@writebookmark
8731 {\theslidesubsection}%
8732 {\Hy@slidetitle}%
8733 {slideheading.\the\Hy@linkcounter}%
8734 {1}%
8735 {toc}%
8736 \fi
8737 }%
8738 \def\slide@subheading[#1]#2{%
8739 \H@refstepcounter{slidesubsection}%
8740 \addtocontents{los}{%
8741 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8742 {\@SCTR}{slideheading.\theslidesubsection}%
8743 }%
8744 \def\Hy@tempa{#2}%
8745 \ifx\Hy@tempa\@empty
8746 \else
8747 {%
8748 \edef\@currentlabel{%
8749 \csname p@slidesubsection\endcsname\theslidesubsection
8750 }%
8751 \makeslide@subheading{#2}%
8752 }%
8753 \fi
8754 \gdef\theslide@subheading{#1}%
8755 \ifHy@bookmarksnumbered
8756 \def\Hy@slidetitle{\theslidesubsection\space #1}%
8757 \else
8758 \def\Hy@slidetitle{#1}%
8759 \fi
8760 \ifHy@hypertextnames
8761 \ifHy@naturalnames
8762 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8763 \Hy@writebookmark
8764 {\theslidesubsection}%
8765 {\Hy@slidetitle}%
8766 {slideheading.\theslidesubsection}%
8767 {2}%
8768 {toc}%
8769 \else
8770 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8771 \Hy@writebookmark
8772 {\theslidesubsection}%
8773 {\Hy@slidetitle}%
8774 {slideheading.\theHslidesubsection}%
8775 {2}%
8776 {toc}%
8777 \fi
8778 \else
8779 \Hy@GlobalStepCount\Hy@linkcounter
8780 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8781 \Hy@writebookmark
8782 {\theslidesubsection}%
8783 {\Hy@slidetitle}%

```

```

8784     {slideheading.\the\Hy@linkcounter}%
8785     {1}%
8786     {toc}%
8787   \fi
8788 }%
8789 \providecommand*\listslidenamelistofslides{
8790 \def\listofslides{
8791   \section*{
8792     \listslidenamelistofslides
8793     \@mkboth{
8794       \expandafter\MakeUppercase\listslidenamelistofslides
8795     }{
8796       \expandafter\MakeUppercase\listslidenamelistofslides
8797     }
8798   }
8799   \def\l@slide###1##2###3###4{
8800     \slide@undottedcline{
8801       \slidenumberline{##3}{\hyperlink{##4}{##2}}
8802     }{
8803     }
8804     \let\l@subslide\l@slide
8805     \@startlos
8806   }
8807   \def\slide@contents{
8808     \def\l@slide###1##2###3###4{
8809       \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}
8810     }
8811     \let\l@subslide\@gobblefour
8812     \@startlos
8813   }
8814   \def\Slide@contents{
8815     \def\l@slide###1##2###3###4{
8816       \ifcase\lslide@flag
8817         \message{##1 ** \the\c@slidesection}%
8818         \ifnum##1>\c@slidesection
8819           \def\lslide@flag{1}%
8820         }{
8821           \large
8822           \slide@ccline{
8823             \slidenumberline{\$ \Rightarrow \bullet\$}%
8824             {\hyperlink{##4}{##2}}
8825           }{##3}%
8826         }
8827       \else
8828       {
8829         \large
8830         \slide@ccline{
8831           \slidenumberline{\$ \surd\; \bullet\$}%
8832           {\hyperlink{##4}{##2}}
8833         }{##3}%
8834       }
8835     }
8836   \or
8837   \def\lslide@flag{2}%
8838   {
8839     \large
8840     \slide@ccline{

```

```

8841     \slidenumberline{$\bullet$}%
8842     {\hyperlink{##4}{##2}}}%
8843   }{##3}%
8844 }%
8845 \or
8846 {%
8847   \large
8848   \slide@cline{%
8849     \slidenumberline{$\bullet$}%
8850     {\hyperlink{##4}{##2}}}%
8851   }{##3}%
8852 }%
8853 \fi
8854 }%
8855 \def\l@subslide##1##2##3##4{%
8856   \ifnum\lslide@flag=1 %
8857     \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}}%
8858   \fi
8859 }%
8860 \def\lslide@flag{0}%
8861 \@startlos
8862 }%
8863 }{}

```

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.)

```

8864 \ifHy@texht
8865   \expandafter\endinput
8866 \fi
8867 \let\real@setref\@setref
8868 \def\@setref#1#2#3{% csname, extract group, refname
8869   \ifx#1\relax
8870     \protect\G@refundefinedtrue
8871     \nfss@text{\reset@font\bfseries ??}%
8872     \@latex@warning{%
8873       Reference ‘#3’ on page \thepage \space undefined%
8874     }%
8875   \else
8876     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8877   \fi
8878 }

```

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

```

8879 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8880   \begingroup
8881     \toks0={\hyper@@link{#5}{#4}}%
8882     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8883     \edef\x{\endgroup
8884       \the\toks0 {\the\toks1 }%
8885     }%
8886     \x
8887 }
8888 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8889   \ifx#1\relax
8890     \protect\G@refundefinedtrue
8891     \nfss@text{\reset@font\bfseries ??}%

```



```

8892 \latex@warning{%
8893   Reference '#3' on page \thepage \space undefined%
8894 }%
8895 \else
8896 \protect\hyper@@link
8897 {\expandafter\@fifthoffive#1}%
8898 {page.\expandafter\@secondoffive#1}%
8899 {\expandafter\@secondoffive#1}%
8900 \fi
8901 }

8902 \end{package}
8903 \check
8904 \checklatex
8905 \checkcommand\def\@setref#1#2#3{%
8906 \ifx#1\relax
8907 \protect\G@refundefinedtrue
8908 \nfss@text{\reset@font\bfseries ??}%
8909 \latex@warning{%
8910   Reference '#3' on page \thepage\space undefined%
8911 }%
8912 \else
8913 \expandafter#2#1\relax
8914 \fi
8915 }
8916 \end{check}
8917 \end{package}

```

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

```

8918 \def\HyRef@StarSetRef#1{%
8919 \begingroup
8920 \Hy@safe@activetrue
8921 \edef\x{#1}%
8922 \@onelevel@sanitize\x
8923 \edef\x{\endgroup
8924   \noexpand\HyRef@@StarSetRef
8925   \expandafter\noexpand\csname r@\x\endcsname{\x}%
8926 }%
8927 \x
8928 }
8929 \def\HyRef@@StarSetRef#1#2#3{%
8930 \ifx#1\@undefined
8931 \let#1\relax
8932 \fi
8933 \real@setref#1#3{#2}%
8934 }
8935 \def\@refstar#1{%
8936 \HyRef@StarSetRef{#1}\@firstoffive
8937 }
8938 \def\@pagerefstar#1{%
8939 \HyRef@StarSetRef{#1}\@secondoffive
8940 }
8941 \def\@namerefstar#1{%
8942 \HyRef@StarSetRef{#1}\@thirdoffive
8943 }
8944 \Hy@AtBeginDocument{%
8945 \ifpackageloaded{varioref}{%

```

```

8946 \def\@Refstar#1{%
8947   \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8948 }%
8949 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8950   \MakeUppercase#1%
8951 }%
8952 \DeclareRobustCommand*{\Ref}{%
8953   \@ifstar\@Refstar\HyRef@Ref
8954 }%
8955 \def\HyRef@Ref#1{%
8956   \hyperref[{#1}]{\Ref*{#1}}%
8957 }%
8958 \def\@Vr@f#1{%
8959   \leavevmode\unskip\vref@space
8960   \hyperref[{#1}]{%
8961     \Ref*{#1}%
8962     \let\vref@space\nobreakspace
8963     \@vpageref[\unskip]{#1}%
8964   }%
8965 }%
8966 \def\@vr@f#1{%
8967   \leavevmode\unskip\vref@space
8968   \begingroup
8969   \let\T@pageref\@pagerefstar
8970   \hyperref[{#1}]{%
8971     \ref*{#1}%
8972     \vpageref[\unskip]{#1}%
8973   }%
8974   \endgroup
8975 }%
8976 }{%%
8977 }
8978 \DeclareRobustCommand*{\autopageref}{%
8979   \@ifstar{%
8980     \HyRef@autopagerefname\pageref*%
8981   }\HyRef@autopageref
8982 }
8983 \def\HyRef@autopageref#1{%
8984   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8985 }
8986 \def\HyRef@autopagerefname{%
8987   \ltx@ifundefined{pageautorefname}{%
8988     \ltx@ifundefined{pagename}{%
8989       \Hy@Warning{No autoref name for 'page'}%
8990     }{%
8991       \pagename\nobreakspace
8992     }%
8993   }{%
8994     \pageautorefname\nobreakspace
8995   }%
8996 }

```

\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.

```

8997 \DeclareRobustCommand*{\autoref}{%
8998   \leavevmode
8999   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
9000 }

```

```

9001 \def\HyRef@autoref#1#2{%
9002   \begingroup
9003   \Hy@safe@activestrue
9004   \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
9005   \endgroup
9006 }
9007 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
9008   \HyRef@ShowKeysRef{#2}%
9009   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref\undefined 1\fi\relax
9010   \edef\HyRef@thisref{%
9011     \expandafter\@fourthoffive#1\@empty\@empty\@empty
9012   }%
9013   \expandafter\HyRef@testreftype\HyRef@thisref.\.%
9014   \Hy@safe@activesfalse
9015   #3{%
9016     \expandafter\@fifthoffive#1\@empty\@empty\@empty
9017   }{%
9018     \expandafter\@fourthoffive#1\@empty\@empty\@empty
9019   }{%
9020     \HyRef@currentHtag
9021     \expandafter\@firstoffive#1\@empty\@empty\@empty
9022     \null
9023   }%
9024   \else
9025     \protect\G@refundefinedtrue
9026     \nfss@text{\reset@font\bfseries ??}%
9027     \@latex@warning{%
9028       Reference ‘#2’ on page \thepage\space undefined%
9029     }%
9030   \fi
9031 }
9032 \def\HyRef@testreftype#1.#2\{%
9033   \ltx@ifundefined{#1autorefname}{%
9034     \ltx@ifundefined{#1name}{%
9035       \HyRef@StripStar#1\*\@nil{#1}%
9036       \ltx@ifundefined{\HyRef@name autorefname}{%
9037         \ltx@ifundefined{\HyRef@name name}{%
9038           \def\HyRef@currentHtag{%
9039             \Hy@Warning{No autoref name for ‘#1’}%
9040           }{%
9041             \edef\HyRef@currentHtag{%
9042               \expandafter\noexpand\csname\HyRef@name name\endcsname
9043               \noexpand~%
9044             }%
9045           }%
9046         }{%
9047           \edef\HyRef@currentHtag{%
9048             \expandafter\noexpand
9049             \csname\HyRef@name autorefname\endcsname
9050             \noexpand~%
9051           }%
9052         }%
9053       }{%
9054         \edef\HyRef@currentHtag{%
9055           \expandafter\noexpand\csname#1name\endcsname
9056           \noexpand~%
9057         }%

```

```

9058 }%
9059 }{%
9060 \edef\HyRef@currentHtag{%
9061   \expandafter\noexpand\csname#1\autorefname\endcsname
9062   \noexpand~%
9063 }%
9064 }%
9065 }
9066 \def\HyRef@StripStar#1*\#2\@nil#3{%
9067   \def\HyRef@name{#2}%
9068   \ifx\HyRef@name\HyRef@CaseStar
9069     \def\HyRef@name{#1}%
9070   \else
9071     \def\HyRef@name{#3}%
9072   \fi
9073 }
9074 \def\HyRef@CaseStar{*\\}
9075 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

9076 \let\HyRef@ShowKeysRef@gobble
9077 \def\HyRef@ShowKeysInit{%
9078   \begingroup\expandafter\expandafter\expandafter\endgroup
9079   \expandafter\ifx\csname SK@@label\endcsname\relax
9080   \else
9081     \ifx\SK@ref\@empty
9082     \else
9083       \def\HyRef@ShowKeysRef{%
9084         \SK@\SK@\ref
9085       }%
9086     \fi
9087   \fi
9088 }
9089 \@ifpackageloaded{showkeys}{%
9090   \HyRef@ShowKeysInit
9091 }{%
9092   \Hy@AtBeginDocument{%
9093     \@ifpackageloaded{showkeys}{%
9094       \HyRef@ShowKeysInit
9095     }{%
9096     }%
9097   }

```

Defaults for the names that \autoref uses.

```

9098 \providecommand*\AMSautorefname{\equationautorefname}
9099 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
9100 \providecommand*\Itemautorefname{\itemautorefname}
9101 \providecommand*\itemautorefname{item}
9102 \providecommand*\equationautorefname{Equation}
9103 \providecommand*\footnoteautorefname{footnote}
9104 \providecommand*\itemautorefname{item}
9105 \providecommand*\figureautorefname{Figure}
9106 \providecommand*\tableautorefname{Table}
9107 \providecommand*\partautorefname{Part}
9108 \providecommand*\appendixautorefname{Appendix}
9109 \providecommand*\chapterautorefname{chapter}

```

```

9110 \providecommand*\sectionautorefname{section}
9111 \providecommand*\subsectionautorefname{subsection}
9112 \providecommand*\subsubsectionautorefname{subsubsection}
9113 \providecommand*\paragraphautorefname{paragraph}
9114 \providecommand*\subparagraphautorefname{subparagraph}
9115 \providecommand*\FancyVerbLineautorefname{line}
9116 \providecommand*\theoremautorefname{Theorem}
9117 \providecommand*\pageautorefname{page}
9118 \end{package}

```

## 47 Configuration files

### 47.1 PS/PDF strings

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

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

```

9119 (*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo)
9120 \begingroup\expandafter\expandafter\expandafter\endgroup
9121 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
9122 \begingroup
9123 \catcode'\|=0 %
9124 \@makeother\|%
9125 |@firstofone{|endgroup
9126 |def|Hy@pstringdef#1#2{%
9127 |begingroup
9128 |edef~{|string~}%
9129 |xdef|Hy@gtemp{#2}%
9130 |endgroup
9131 |let#1|Hy@gtemp
9132 |@onelevel@sanitize#1%
9133 |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
9134 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
9135 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
9136 }%
9137 |def|Hy@ExchangeBackslash#1|#2|@nil{%
9138 #1%
9139 |ifx|\#2|\%%
9140 |else
9141 \\\%
9142 |ltx@ReturnAfterFi{%
9143 |Hy@ExchangeBackslash#2|@nil
9144 }%
9145 |fi
9146 }%
9147 }%
9148 \def|Hy@ExchangeLeftParenthesis#1(#2|@nil{%
9149 #1%
9150 \ifx\#2\%%
9151 \else
9152 \@backslashchar(%
9153 \ltx@ReturnAfterFi{%

```

```

9154 \Hy@ExchangeLeftParenthesis#2\@nil
9155 }%
9156 \fi
9157 }%
9158 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
9159 #1%
9160 \ifx\#2\%
9161 \else
9162 \@backslashchar)%
9163 \ltx@ReturnAfterFi{%
9164 \Hy@ExchangeRightParenthesis#2\@nil
9165 }%
9166 \fi
9167 }%
9168 \else
9169 \def\Hy@pstringdef#1#2{%
9170 \begingroup
9171 \edef~{\string~}%
9172 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
9173 \endgroup
9174 \let#1\Hy@gtemp
9175 }%
9176 \fi
9177 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 47.2 pdfTeX

```

9178 <*pdfTeX>
9179 \providecommand*\XR@ext}{pdf}
9180 \Hy@setbreaklinks{true}
9181 \def\HyPat@ObjRef{%
9182 [0-9]*[1-9][0-9]* 0 R%
9183 }

```

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

```

9184 \let\Hy@pdfminorversion\relax
9185 \begingroup\expandafter\expandafter\expandafter\endgroup
9186 \expandafter\ifx\csname pdfminorversion\endcsname\relax
9187 \begingroup\expandafter\expandafter\expandafter\endgroup
9188 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
9189 \else
9190 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
9191 \fi
9192 \else
9193 \def\Hy@pdfminorversion{\pdfminorversion}%
9194 \fi
9195 \@ifundefined{Hy@pdfminorversion}{%
9196 \PackageInfo{hyperref}{%
9197 PDF version is not set, because pdfTeX is too old (<1.10a)%
9198 }%
9199 }{

```

```

9200 \ifHy@ocgcolorlinks
9201   \ifnum\Hy@pdfminorversion<5 %
9202     \kvsetkeys{Hyp}{pdfversion=1.5}%
9203   \fi
9204 \fi
9205 \ifHy@setpdfversion
9206   \ifnum\Hy@pdfversion<5 %
9207     \ltx@ifundefined{pdfobjcompresslevel}{%
9208       }{%
9209         \ifHy@verbose
9210           \Hy@InfoNoLine{%
9211             PDF object streams are disabled, because they are%
9212             \MessageBreak
9213             not supported in requested PDF version %
9214             1.\Hy@pdfversion
9215           }%
9216         \fi
9217         \pdfobjcompresslevel=\ltx@zero
9218       }%
9219     \fi
9220   \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
9221   \else
9222     \let\Hy@temp\ltx@empty
9223     \def\Hy@temp@A#1#2{%
9224       \ifnum#1>\ltx@zero
9225         \edef\Hy@temp{%
9226           \Hy@temp
9227           \space\space
9228           \the#1\space #2%
9229           \ifnum#1=\ltx@one\else s\fi
9230           \MessageBreak
9231         }%
9232       \fi
9233     }%
9234     \Hy@temp@A\pdflastobj{PDF object}%
9235     \Hy@temp@A\pdflastxform{form XObject}%
9236     \Hy@temp@A\pdflastximage{image XObject}%
9237     \Hy@temp@A\pdflastannot{annotation}%
9238     \ltx@ifundefined{pdflastlink}{%
9239       }{%
9240         \Hy@temp@A\pdflastlink{link}%
9241       }%
9242     \ifx\Hy@temp\ltx@empty
9243       \Hy@pdfminorversion=\Hy@pdfversion\relax
9244     \else
9245       \let\Hy@temp@A\ltx@empty
9246       \ifnum\Hy@pdfversion=4 %
9247         \IfFileExists{pdf14.sty}{%
9248           \def\Hy@temp@A{%
9249             \MessageBreak
9250             Or \string\RequirePackage{pdf14} can be used%
9251             \MessageBreak
9252             before \string\documentclass\space as shortcut%
9253           }%
9254         }{}%
9255       \fi
9256       \Hy@WarningNoLine{%

```

```

9257     The PDF version number could not be set,\MessageBreak
9258     because some PDF objects are already written:%
9259     \MessageBreak
9260     \Hy@temp
9261     The version should be set as early as possible:%
9262     \MessageBreak
9263     \space\space
9264     \expandafter\string\Hy@pdfminorversion=\Hy@pdfversion
9265     \string\relax
9266     \ifnum\Hy@pdfversion<5 %
9267     \ltx@ifundefined{pdfobjcompresslevel}{%
9268     }{%
9269     \MessageBreak
9270     \space\space
9271     \string\pdfobjcompresslevel=0\string\relax
9272     }%
9273     \fi
9274     \Hy@temp@A
9275     }%
9276     \fi
9277     \fi
9278     \PackageInfo{hyperref}{%
9279     \expandafter\string\Hy@pdfminorversion
9280     :=\number\Hy@pdfversion\space
9281     }%
9282     \fi
9283     \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
9284 }
9285 \Hy@DisableOption{pdfversion}%

9286 \ifHy@ocgcolorlinks
9287 \pdf@ifdraftmode{}{%
9288 \immediate\pdfobj{%
9289 <<%
9290 /Type/OCG%
9291 /Name(View)%
9292 /Usage<<%
9293 /Print<<%
9294 /PrintState/OFF%
9295 >>%
9296 /View<<%
9297 /ViewState/ON%
9298 >>%
9299 >>%
9300 >>%
9301 }%
9302 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
9303 \immediate\pdfobj{%
9304 <<%
9305 /Type/OCG%
9306 /Name(Print)%
9307 /Usage<<%
9308 /Print<<%
9309 /PrintState/ON%
9310 >>%
9311 /View<<%
9312 /ViewState/OFF%
9313 >>%

```



```

9314     >>%
9315     >>%
9316 }%
9317 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
9318 \immediate\pdfobj{%
9319 [%
9320   \OBJ@OCG@view\space\OBJ@OCG@print
9321 ]%
9322 }%
9323 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
9324 \pdfcatalog{%
9325   /OCProperties<<%
9326     /OCGs \OBJ@OCGs
9327   /D<<%
9328     /OFF[\OBJ@OCG@print]%
9329     /AS[%
9330       <<%
9331         /Event/View%
9332         /OCGs \OBJ@OCGs
9333         /Category[/View]%
9334       >>%
9335       <<%
9336         /Event/Print%
9337         /OCGs \OBJ@OCGs
9338         /Category[/Print]%
9339       >>%
9340       <<%
9341         /Event/Export%
9342         /OCGs \OBJ@OCGs
9343         /Category[/Print]%
9344       >>%
9345     ]%
9346   >>%
9347 >>%
9348 }%
9349 \begingroup
9350 \edef\x{\endgroup
9351   \pdfpageresources{%
9352     \the\pdfpageresources
9353     /Properties<<%
9354       /OCView \OBJ@OCG@view
9355       /OCPrint \OBJ@OCG@print
9356     >>%
9357   }%
9358 }%
9359 \x
9360 }%
9361 \Hy@AtBeginDocument{%
9362   \def\Hy@colorlink#1{%
9363     \begingroup
9364       \ifHy@ocgcolorlinks
9365         \def\Hy@ocgcolor{#1}%
9366         \setbox0=\hbox\bgroup\color@begingroup
9367       \else
9368         \HyColor@UseColor#1%
9369       \fi
9370     }%

```

```

9371 \def\Hy@endcolorlink{%
9372 \ifHy@ocgcolorlinks
9373 \color@endgroup\egroup
9374 \mbox{%
9375 \pdfliteral page{/OC/OCPrint BDC}%
9376 \rlap{\copy0}%
9377 \pdfliteral page{EMC/OC/OCView BDC}%
9378 \begingroup
9379 \expandafter\HyColor@UseColor\Hy@ocgcolor
9380 \box0 %
9381 \endgroup
9382 \pdfliteral page{EMC}%
9383 }%
9384 \fi
9385 \endgroup
9386 }%
9387 }%
9388 \else
9389 \Hy@DisableOption{ocgcolorlinks}%
9390 \fi

```

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

```

9391 \def\setpdfinkmargin#1{\pdfinkmargin#1}
9392 \ifx\pdfstartlink\@undefined% less than version 14
9393 \let\pdfstartlink\pdfannotlink
9394 \let\pdfinkmargin\@tempdima
9395 \let\pdfxform\pdfform
9396 \let\pdfastxform\pdfastform
9397 \let\pdfrefxform\pdfrefform
9398 \else
9399 \pdfinkmargin1pt %
9400 \fi

```

First set up the default linking

```

9401 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

9402 \Hy@WrapperDef\new@pdfink#1{%
9403 \ifhmode
9404 \@savsf\spacefactor
9405 \fi
9406 \Hy@SaveLastskip
9407 \Hy@VerboseAnchor{#1}%
9408 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9409 \Hy@DestName\Hy@pstringDest\@pdfview
9410 \Hy@RestoreLastskip
9411 \ifhmode
9412 \spacefactor\@savsf
9413 \fi
9414 }
9415 \let\pdf@endanchor\@empty

```

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

```

9416 \def\Hy@DestName#1#2{%
9417 \pdfdest name{#1}#2\relax
9418 }

```

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.

```

9419 \providecommand*\pdfborder{0 0 1}
9420 \providecommand*\pdfborderstyle{}
9421 \def\Hy@undefinedname{UNDEFINED}
9422 \def\find@pdflink#1#2{%
9423   \leavevmode
9424   \protected@edef\Hy@testname{#2}%
9425   \ifx\Hy@testname\@empty
9426     \Hy@Warning{%
9427       Empty destination name,\MessageBreak
9428       using '\Hy@undefinedname'%
9429     }%
9430   \let\Hy@testname\Hy@undefinedname
9431 \else
9432   \Hy@pstringdef\Hy@testname{%
9433     \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
9434   }%
9435 \fi
9436 \Hy@StartlinkName{%
9437   \ifHy@pdfa /F 4\fi
9438   \Hy@setpdfborder
9439   \ifx\@pdfhighlight\@empty
9440     \else
9441       /H\@pdfhighlight
9442     \fi
9443   \ifx\CurrentBorderColor\relax
9444     \else
9445       /C[\CurrentBorderColor]%
9446     \fi
9447 } \Hy@testname
9448 \expandafter\Hy@colorlink\cname @#1color\endcname
9449 }
9450 \def\Hy@StartlinkName#1#2{%
9451   \pdfstartlink attr{#1}goto name{#2}\relax
9452 }
9453 \def\close@pdflink{%
9454   \Hy@endcolorlink
9455   \Hy@VerboseLinkStop
9456   \pdfendlink
9457 }
9458 \def\hyper@anchor#1{%
9459   \new@pdflink{#1}\anchor@spot\pdf@endanchor
9460 }
9461 \def\hyper@anchorstart#1{%
9462   \new@pdflink{#1}%
9463   \Hy@activeanchortrue
9464 }
9465 \def\hyper@anchorend{%
9466   \pdf@endanchor
9467   \Hy@activeanchorfalse
9468 }
9469 \def\hyper@linkstart#1#2{%
9470   \Hy@VerboseLinkStart{#1}{#2}%
9471   \ltx@ifundefined{@#1bordercolor}{%

```

```

9472 \let\CurrentBorderColor\relax
9473 }{%
9474 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9475 }%
9476 \find@pdfink{#1}{#2}%
9477 }
9478 \def\hyper@linkend{\close@pdfink}
9479 \def\hyper@link#1#2#3{%
9480 \Hy@VerboseLinkStart{#1}{#2}%
9481 \ltx@ifundefined{@#1bordercolor}{%
9482 \let\CurrentBorderColor\relax
9483 }{%
9484 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9485 }%
9486 \find@pdfink{#1}{#2}#3\Hy@xspace@end
9487 \close@pdfink
9488 }
9489 \let\CurrentBorderColor\@linkbordercolor
9490 \def\hyper@linkurl#1#2{%
9491 \begingroup
9492 \Hy@pstringdef\Hy@pstringURI{#2}%
9493 \hyper@chars
9494 \leavevmode
9495 \pdfstartlink
9496 attr{%
9497 \Hy@setpdfborder
9498 \ifx\@pdfhighlight\@empty
9499 \else
9500 /H\@pdfhighlight
9501 \fi
9502 \ifx\@urlbordercolor\relax
9503 \else
9504 /C[\@urlbordercolor]%
9505 \fi
9506 }%
9507 user{%
9508 /Subtype/Link%
9509 \ifHy@pdfa /F 4\fi
9510 /A<<%
9511 /Type/Action%
9512 /S/URI%
9513 /URI(\Hy@pstringURI)%
9514 \ifHy@href@ismap
9515 /IsMap true%
9516 \fi
9517 \Hy@href@nextactionraw
9518 >>%
9519 }%
9520 \relax
9521 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9522 \close@pdfink
9523 \endgroup
9524 }
9525 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9526 \begingroup
9527 \def\Hy@pstringF{#2}%
9528 \Hy@CleanupFile\Hy@pstringF

```

```

9529 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9530 \Hy@pstringdef\Hy@pstringD{#3}%
9531 \Hy@MakeRemoteAction
9532 \leavevmode
9533 \pdfstartlink
9534 attr{%
9535   \Hy@setpdfborder
9536   \ifx\@pdfhighlight\@empty
9537   \else
9538     /H\@pdfhighlight
9539   \fi
9540   \ifx\@filebordercolor\relax
9541   \else
9542     /C[\@filebordercolor]%
9543   \fi
9544 }%
9545 user {%
9546   /Subtype/Link%
9547   \ifHy@pdfa /F 4\fi
9548   /A<<%
9549   /F(\Hy@pstringF)%
9550   /S/GoToR%
9551   \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}

```

```

9552 \ifx\#3\%
9553   /D[\Hy@href@page\@pdfremotestartview]%
9554 \else
9555   /D(\Hy@pstringD)%
9556 \fi
9557 \Hy@href@nextactionraw
9558 >>%
9559 }%
9560 \relax
9561 \Hy@colorlink\@filecolor#1\Hy@xspace@end
9562 \close@pdfink
9563 \endgroup
9564 }
9565 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9566 \begingroup
9567 \Hy@pstringdef\Hy@pstringF{#1}%
9568 \Hy@pstringdef\Hy@pstringP{#3}%
9569 \leavevmode
9570 \pdfstartlink
9571 attr{%
9572   \Hy@setpdfborder
9573   \ifx\@pdfhighlight\@empty

```

```

9574     \else
9575         /H\@pdfhighlight
9576     \fi
9577     \ifx\@runbordercolor\relax
9578     \else
9579         /C[\@runbordercolor]%
9580     \fi
9581 }%
9582 user {%
9583     /Subtype/Link%
9584     \ifHy@pdfa /F 4\fi
9585     /A<<%
9586         /F(\Hy@pstringF)%
9587         /S/Launch%
9588         \Hy@SetNewWindow
9589         \ifx\#3\%
9590     \else
9591         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9592     \fi
9593     \Hy@href@nextactionraw
9594     >>%
9595 }%
9596 \relax
9597 \Hy@colorlink\@runcolor#2\Hy@xspace@end
9598 \close@pdflink
9599 \endgroup
9600 }

```

\@pdfproducer

```

9601 \ifx\@pdfproducer\relax
9602 \begingroup\expandafter\expandafter\expandafter\endgroup
9603 \expandafter\ifx\csname luatexversion\endcsname\relax
9604 \def\@pdfproducer{pdfTeX}%
9605 \ifx\eTeXversion\@undefined
9606 \else
9607     \ifx\eTeXversion\relax
9608     \else
9609         \ifnum\eTeXversion>0 %
9610             \def\@pdfproducer{pdfTeX}%
9611         \fi
9612     \fi
9613 \fi
9614 \ifx\pdfTeXversion\@undefined
9615 \else
9616     \ifnum\pdfTeXversion<100 %
9617         \edef\@pdfproducer{%
9618             \@pdfproducer
9619             \the\pdfTeXversion.\pdfTeXrevision
9620         }%
9621     \else
9622         \ifnum\pdfTeXversion<130 %
9623             \edef\@pdfproducer{%
9624                 \@pdfproducer-
9625                 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9626                 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
9627                 \pdfTeXrevision
9628             }%

```

```

9629 \else
9630 \ifnum\pdfTeXversion<140 %
9631 \else
9632 \def\@pdfproducer{pdfTeX}%
9633 \fi
9634 \edef\@pdfproducer{%
9635 \@pdfproducer-%
9636 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9637 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9638 \pdfTeXrevision
9639 }%
9640 \fi
9641 \fi
9642 \fi
9643 \else
9644 \begingroup
9645 \count@=\luatexversion
9646 \divide\count@ by 100 %
9647 \edef\x{\the\count@}%
9648 \count@=-\x\relax
9649 \multiply\count@ by 100 %
9650 \advance\count@ by \luatexversion
9651 \edef\x{\endgroup
9652 \def\noexpand\@pdfproducer{%
9653 LuaTeX-\x.\the\count@.\luatexrevision
9654 }%
9655 }%
9656 \x
9657 \fi
9658 \fi

```

\PDF@SetupDox

```

9659 \def\PDF@SetupDoc{%
9660 \ifx\@pdfpagescrop\@empty
9661 \else
9662 \edef\process@me{%
9663 \pdfpagesattr={%
9664 /CropBox[\@pdfpagescrop]%
9665 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
9666 \else
9667 ^^J\the\pdfpagesattr
9668 \fi
9669 }%
9670 }%
9671 \process@me
9672 \fi
9673 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9674 \pdfcatalog{%
9675 /PageMode/\@pdfpagemode
9676 \ifx\@baseurl\@empty
9677 \else
9678 /URI<</Base(\Hy@pstringB)>>%
9679 \fi
9680 }%
9681 \ifx\@pdfstartpage\@empty
9682 \else
9683 \ifx\@pdfstartview\@empty
9684 \else

```

```

9685     openaction goto page\@pdfstartpage{\@pdfstartview}%
9686     \fi
9687 \fi
9688 \edef\Hy@temp{%
9689     \ifHy@pdftoolbar\else /HideToolbar true\fi
9690     \ifHy@pdfmenubar\else /HideMenubar true\fi
9691     \ifHy@pdfwindowui\else /HideWindowUI true\fi
9692     \ifHy@pdfwindow /FitWindow true\fi
9693     \ifHy@pdfcenterwindow /CenterWindow true\fi
9694     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9695     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9696     \Hy@UseNameKey{Direction}\@pdfdirection
9697     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9698     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9699     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9700     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9701     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9702     \Hy@UseNameKey{Duplex}\@pdfduplex
9703     \ifx\@pdfpicktraybypdfsize\@empty
9704     \else
9705         /PickTrayByPDFSize \@pdfpicktraybypdfsize
9706     \fi
9707     \ifx\@pdfprintpagerange\@empty
9708     \else
9709         /PrintPageRange[\@pdfprintpagerange]%
9710     \fi
9711     \ifx\@pdfnumcopies\@empty
9712     \else
9713         /NumCopies \@pdfnumcopies
9714     \fi
9715 }%
9716 \pdfcatalog{%
9717     \ifx\Hy@temp\@empty
9718     \else
9719         /ViewerPreferences<<\Hy@temp>>%
9720     \fi
9721     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9722     \ifx\@pdflang\@empty
9723     \else
9724         /Lang(\@pdflang)%
9725     \fi
9726 }%
9727 }

```

\PDF@FinishDoc

```

9728 \def\PDF@FinishDoc{%
9729     \pdf@ifdraftmode{}{%
9730         \Hy@UseMaketitleInfos
9731         \HyInfo@GenerateAddons
9732     \pdfinfo{%
9733         /Author(\@pdfauthor)%
9734         /Title(\@pdftitle)%
9735         /Subject(\@pdfsubject)%
9736         /Creator(\@pdfcreator)%
9737         \ifx\@pdfcreationdate\@empty
9738         \else
9739             /CreationDate(\@pdfcreationdate)%
9740         \fi

```



```

9741 \ifx\@pdfmoddate\@empty
9742 \else
9743 /ModDate(\@pdfmoddate)%
9744 \fi
9745 \ifx\@pdfproducer\relax
9746 \else
9747 /Producer(\@pdfproducer)%
9748 \fi
9749 /Keywords(\@pdfkeywords)%
9750 \ifx\@pdftrapped\@empty
9751 \else
9752 /Trapped/\@pdftrapped
9753 \fi
9754 \HyInfo@Addons
9755 }%
9756 }%
9757 \Hy@DisableOption{pdfauthor}%
9758 \Hy@DisableOption{pdftitle}%
9759 \Hy@DisableOption{pdfsubject}%
9760 \Hy@DisableOption{pdfcreator}%
9761 \Hy@DisableOption{pdfcreationdate}%
9762 \Hy@DisableOption{pdfmoddate}%
9763 \Hy@DisableOption{pdfproducer}%
9764 \Hy@DisableOption{pdfkeywords}%
9765 \Hy@DisableOption{pdftrapped}%
9766 \Hy@DisableOption{pdfinfo}%
9767 }

```

`\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`.

```

9768 \def\hyper@pagetransition{%
9769 \ifx\@pdfpagetransition\relax
9770 \else
9771 \expandafter\Hy@RemoveTransPageAttr
9772 \the\pdfpageattr^^J/Trans{}}>>\END
9773 \ifx\@pdfpagetransition\@empty
9774 \else
9775 \edef\@processme{%
9776 \global\pdfpageattr{%
9777 \the\pdfpageattr
9778 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9779 }%
9780 }%
9781 \@processme
9782 \fi
9783 \fi
9784 }

```

`\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.

```

9785 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9786 \ifx\#2\%
9787 \global\pdfpageattr{#1}%

```

```

9788 \else
9789 \Hy@RemoveTransPageAttr#1#4\END
9790 \fi
9791 }

```

`\hyper@pageduration` `\@pdfpageduration` is initialized with `\relax`. So it indicates, if option `pdfpage-`  
duration is used. First previous `/Dur` entries are removed. If a new `/Dur` key  
exists, it is appended to `\pdfpageattr`.

```

9792 \def\hyper@pageduration{%
9793 \ifx\@pdfpageduration\relax
9794 \else
9795 \expandafter
9796 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9797 \ifx\@pdfpageduration\@empty
9798 \else
9799 \edef\@processme{%
9800 \global\pdfpageattr{%
9801 \the\pdfpageattr
9802 ^^J/Dur \@pdfpageduration\space
9803 }%
9804 }%
9805 \@processme
9806 \fi
9807 \fi
9808 }

```

`\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.

```

9809 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9810 \ifx\#2\%
9811 \global\pdfpageattr{#1}%
9812 \else
9813 \Hy@RemoveDurPageAttr#1#4\END
9814 \fi
9815 }

```

`\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).

```

9816 \def\hyper@pagehidden{%
9817 \ifHy@useHidKey
9818 \expandafter
9819 \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9820 \ifHy@pdfpagehidden
9821 \edef\@processme{%
9822 \global\pdfpageattr{%
9823 \the\pdfpageattr
9824 ^^J/Hid true % SPACE
9825 }%
9826 }%
9827 \@processme
9828 \fi
9829 \fi
9830 }

```

`\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.

```

9831 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9832   \ifx\#2\%
9833     \global\pdfpageattr{#1}%
9834   \else
9835     \Hy@RemoveHidPageAttr#1#4\END
9836   \fi
9837 }

9838 \pdf@ifdraftmode{}{%
9839   \g@addto@macro\Hy@EveryPageHook{%
9840     \hyper@pagetransition
9841     \hyper@pageduration
9842     \hyper@pagehidden
9843   }%
9844 }
```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

9845 </pdfTeX>
9846 (*pdfTeX | xetex)
9847 \Hy@AtBeginDocument{%
9848   \ifHy@setpagesize
9849     \expandafter\@firstofone
9850   \else
9851     \expandafter\@gobble
9852   \fi
9853 }%
9854 \@ifclassloaded{seminar}{%
9855 (*pdfTeX)
9856   \setlength{\pdfhorigin}{1truein}%
9857   \setlength{\pdfvorigin}{1truein}%
9858 </pdfTeX>
9859   \ifportrait
9860     \ifdim\paperwidth=\z@
9861     \else
9862       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9863     \fi
9864     \ifdim\paperheight=\z@
9865     \else
9866       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9867     \fi
9868   \else
9869     \ifdim\paperheight=\z@
9870     \else
9871       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9872     \fi
9873     \ifdim\paperwidth=\z@
9874     \else
9875       \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9876     \fi
9877   \fi
9878 }{%
9879   \ltx@ifundefined{stockwidth}{%
```

```

9880 \ifdim\paperwidth>\z@
9881 \setlength{\pdfpagewidth}{\paperwidth}%
9882 \fi
9883 \ifdim\paperheight>\z@
9884 \setlength{\pdfpageheight}{\paperheight}%
9885 \fi
9886 }{%
9887 \ifdim\stockwidth>\z@
9888 \setlength{\pdfpagewidth}{\stockwidth}%
9889 \fi
9890 \ifdim\stockheight>\z@
9891 \setlength{\pdfpageheight}{\stockheight}%
9892 \fi
9893 }%
9894 }%
9895 }%
9896 \Hy@DisableOption{setpagesize}%
9897 }
9898 </pdftex|xetex>
9899 <*pdftex>
9900 \def\Acrobatmenu#1#2{%
9901 \Hy@Acrobatmenu{#1}{#2}{%
9902 \leavevmode
9903 \EdefEscapeName\Hy@temp@menu{#1}%
9904 \pdfstartlink
9905 attr{%
9906 \Hy@setpdfborder
9907 \ifx\@pdfhighlight\@empty
9908 \else
9909 /H\@pdfhighlight
9910 \fi
9911 \ifx\@menubordercolor\relax
9912 \else
9913 /C[\@menubordercolor]%
9914 \fi
9915 }%
9916 user{%
9917 /Subtype/Link%
9918 \ifHy@pdfa /F 4\fi
9919 /A<<%
9920 /S/Named%
9921 /N/\Hy@temp@menu
9922 \Hy@href@nextactionraw
9923 >>%
9924 }%
9925 \relax
9926 \Hy@colorlink\@menucolor#2%
9927 \closepdflink
9928 }%
9929 }

```

#### 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.

```

9930 \def\Hy@FixNotFirstPage{%
9931   \gdef\Hy@FixNotFirstPage{%
9932     \setbox\AtBeginShipoutBox=\hbox{%
9933       \copy\AtBeginShipoutBox
9934     }%
9935   }%
9936 }
9937 \ltx@ifpackagelater{atbegshi}{2011/10/05}{%
9938 }{%
9939   \AtBeginShipout{\Hy@FixNotFirstPage}%
9940 }
9941 \</pdfTeX>

```

### 47.3 hypertex

The HyperTeX specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of `\special` commands:

**href:** `html:<a href = "href_string">`

**name:** `html:<a name = "name_string">`

**end:** `html:</a>`

**image:** `html:<img src = "href_string">`

**base\_name:** `html:<base href = "href_string">`

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base\_name* command is be used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The *href* and *name* commands must be paired with an *end* command later in the TeX file — the TeX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href\_string*. The *anchor* associated with a *name* command represents a possible location to which other hypertext links may refer, either as local references (of the form `href="#name_string`" with the *name\_string* identical to the one in the *name* command) or as part of a URL (of the form `URL#name_string`). Here *href\_string* is a valid URL or local identifier, while *name\_string* could be any string at all: the only caveat is that `"` characters should be escaped with a backslash (`\`), and if it looks like a URL name it may cause problems.

```

9942 \<*hypertex>
9943 \providecommand*{\XR@ext}{dvi}
9944 \let\PDF@FinishDoc\ltx@empty

```

```

9945 \def\PDF@SetupDoc{%
9946   \ifx\@baseurl\@empty
9947   \else
9948     \special{html:<base href="\@baseurl">}%
9949   \fi
9950 }
9951 \Hy@WrapperDef\hyper@anchor#1{%
9952   \Hy@SaveLastskip
9953   \Hy@VerboseAnchor{#1}%
9954   \begingroup
9955     \let\protect=\string
9956     \hyper@chars
9957     \special{html:<a name=%
9958       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9959   \endgroup
9960   \Hy@activeanchortrue
9961   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9962   \special{html:</a>}%
9963   \Hy@activeanchorfalse
9964   \Hy@RestoreLastskip
9965 }
9966 \Hy@WrapperDef\hyper@anchorstart#1{%
9967   \Hy@SaveLastskip
9968   \Hy@VerboseAnchor{#1}%
9969   \begingroup
9970     \hyper@chars
9971     \special{html:<a name=%
9972       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9973   \endgroup
9974   \Hy@activeanchortrue
9975 }
9976 \def\hyper@anchorend{%
9977   \special{html:</a>}%
9978   \Hy@activeanchorfalse
9979   \Hy@RestoreLastskip
9980 }
9981 \def\@urltype{url}
9982 \def\hyper@linkstart#1#2{%
9983   \Hy@VerboseLinkStart{#1}{#2}%
9984   \expandafter\Hy@colorlink\csname @#1color\endcsname
9985   \def\Hy@tempa{#1}%
9986   \ifx\Hy@tempa\@urltype
9987     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9988   \else
9989     \begingroup
9990       \hyper@chars
9991       \special{html:<a href=%
9992         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9993     \endgroup
9994   \fi
9995 }
9996 \def\hyper@linkend{%
9997   \special{html:</a>}%
9998   \Hy@endcolorlink
9999 }
10000 \def\hyper@linkfile#1#2#3{%
10001   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%

```

```

10002 }
10003 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why L<sup>A</sup>T<sub>E</sub>X constructs make this totally foul up, and make us revert to basic T<sub>E</sub>X. I do not know.

```

10004 \leavevmode
10005 \ifHy@raiselinks
10006 \Hy@SaveSpaceFactor
10007 \Hy@SaveSavedSpaceFactor
10008 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10009 \Hy@RestoreSavedSpaceFactor
10010 \@linkdim\dp\@tempboxa
10011 \lower\@linkdim\hbox{%
10012 \hyper@chars
10013 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
10014 }%
10015 \Hy@colorlink\@urlcolor
10016 \Hy@RestoreSpaceFactor
10017 #1%
10018 \Hy@SaveSpaceFactor
10019 \@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).

```

10020 \advance\@linkdim by -6.5\p@
10021 \raise\@linkdim\hbox{\special{html:</a>}}%
10022 \Hy@endcolorlink
10023 \Hy@RestoreSpaceFactor
10024 \else
10025 \begingroup
10026 \hyper@chars
10027 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
10028 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
10029 \special{html:</a>}}%
10030 \Hy@endcolorlink
10031 \endgroup
10032 \fi
10033 }

```

Very poor implementation of `\hyper@link` without considering #1.

```

10034 \def\hyper@link#1#2#3{%
10035 \Hy@VerboseLinkStart{#1}{#2}%
10036 \hyper@linkurl{#3}{\# \Hy@DestNameFilter{#2}}%
10037 }

10038 \def\hyper@image#1#2{%
10039 \begingroup
10040 \hyper@chars
10041 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
10042 \endgroup
10043 }
10044 </hypertex>
10045 <*\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 hypertext cfg. For dviwindo,  $\LaTeX$  must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by `\baselineskip` high is used.

```
10046 \providecommand*\XR@ext}{dvi}
10047 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
10048 \Hy@WrapperDef\hyper@anchor#1{%
10049   \Hy@SaveLastskip
10050   \Hy@VerboseAnchor{#1}%
10051   \begingroup
10052     \let\protect=\string
10053     \special{mark: #1}%
10054   \endgroup
10055   \Hy@Activeanchortrue
10056   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10057   \Hy@activeanchorfalse
10058   \Hy@RestoreLastskip
10059 }
10060 \Hy@WrapperDef\hyper@anchorstart#1{%
10061   \Hy@SaveLastskip
10062   \Hy@VerboseAnchor{#1}%
10063   \special{mark: #1}%
10064   \Hy@activeanchortrue
10065 }
10066 \def\hyper@anchorend{%
10067   \Hy@activeanchorfalse
10068   \Hy@RestoreLastskip
10069 }
10070 \def\hyper@linkstart#1#2{%
10071   \Hy@VerboseLinkStart{#1}{#2}%
10072   \expandafter\Hy@colorlink\csname @#1color\endcsname
10073   \special{button: %
10074     10000000 %
10075     \number\baselineskip\space
10076     #2%
10077   }%
10078 }
10079 \def\hyper@linkend{%
10080   \Hy@endcolorlink
10081 }
10082 \def\hyper@link#1#2#3{%
10083   \Hy@VerboseLinkStart{#1}{#2}%
10084   \leavevmode
10085   \ifHy@raiselinks
10086     \Hy@SaveSpaceFactor
10087     \Hy@SaveSavedSpaceFactor
10088     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
10089     \Hy@RestoreSavedSpaceFactor
```



```

10090 \@linkdim\dp\@tempboxa
10091 \lower\@linkdim\hbox{%
10092 \special{button: %
10093 \number\wd\@tempboxa\space
10094 \number\ht\@tempboxa\space
10095 #2%
10096 }%
10097 \expandafter\Hy@colorlink\csname @#1color\endcsname
10098 \Hy@RestoreSpaceFactor
10099 #3\Hy@xspace@end
10100 \Hy@SaveSpaceFactor
10101 \Hy@endcolorlink
10102 }%
10103 \@linkdim\ht\@tempboxa
10104 \advance\@linkdim by -6.5\p@
10105 \raise\@linkdim\hbox{}%
10106 \Hy@RestoreSpaceFactor
10107 \else
10108 \special{button: %
10109 \number\wd\@tempboxa\space
10110 \number\ht\@tempboxa\space
10111 #2%
10112 }%
10113 \expandafter\Hy@colorlink\csname @#1color\endcsname
10114 #3\Hy@xspace@end
10115 \Hy@endcolorlink
10116 \fi
10117 }
10118 \def\hyper@linkurl#1#2{%
10119 \begingroup
10120 \hyper@chars
10121 \leavevmode
10122 \ifHy@raiselinks
10123 \Hy@SaveSpaceFactor
10124 \Hy@SaveSavedSpaceFactor
10125 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10126 \Hy@RestoreSavedSpaceFactor
10127 \@linkdim\dp\@tempboxa
10128 \lower\@linkdim\hbox{%
10129 \special{button: %
10130 \number\wd\@tempboxa\space
10131 \number\ht\@tempboxa\space
10132 launch: \wwwbrowser\space
10133 #2%
10134 }%
10135 \Hy@colorlink\@urlcolor
10136 \Hy@RestoreSpaceFactor
10137 #1\Hy@xspace@end
10138 \Hy@SaveSpaceFactor
10139 \Hy@endcolorlink
10140 }%
10141 \@linkdim\ht\@tempboxa
10142 \advance\@linkdim by -6.5\p@
10143 \raise\@linkdim\hbox{}%
10144 \Hy@RestoreSpaceFactor
10145 \else
10146 \special{button: %

```

```

10147 \number\wd\@tempboxa\space
10148 \number\ht\@tempboxa\space
10149 launch: \wwwbrowser\space
10150 #2%
10151 }%
10152 \Hy@colorlink\@urlcolor
10153 #1\Hy@xspace@end
10154 \Hy@endcolorlink
10155 \fi
10156 \endgroup
10157 }
10158 \def\hyper@linkfile#1#2#3{%
10159 \begingroup
10160 \hyper@chars
10161 \leavevmode
10162 \ifHy@raiselinks
10163 \Hy@SaveSpaceFactor
10164 \Hy@SaveSavedSpaceFactor
10165 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10166 \Hy@RestoreSavedSpaceFactor
10167 \@linkdim\dp\@tempboxa
10168 \lower\@linkdim\hbox{%
10169 \special{button: %
10170 \number\wd\@tempboxa\space
10171 \number\ht\@tempboxa\space
10172 #3,%
10173 file: #2%
10174 }%
10175 \Hy@colorlink\@filecolor
10176 \Hy@RestoreSpaceFactor
10177 #1\Hy@xspace@end
10178 \Hy@SaveSpaceFactor
10179 \Hy@endcolorlink
10180 }%
10181 \@linkdim\ht\@tempboxa
10182 \advance\@linkdim by -6.5\p@
10183 \raise\@linkdim\hbox{}}%
10184 \Hy@RestoreSpaceFactor
10185 \else
10186 \special{button: %
10187 \number\wd\@tempboxa\space
10188 \number\ht\@tempboxa\space
10189 #3,%
10190 file: #2%
10191 }%
10192 \Hy@colorlink\@filecolor
10193 #1\Hy@xspace@end
10194 \Hy@endcolorlink
10195 \fi
10196 \endgroup
10197 }
10198 \ifx\@pdfproducer\relax
10199 \def\@pdfproducer{dviwindo + Distiller}%
10200 \fi
10201 \HyInfo@AddonUnsupportedtrue
10202 \def\PDF@FinishDoc{%
10203 \Hy@UseMaketitleInfos

```

```

10204 \HyInfo@TrappedUnsupported
10205 \special{PDF: Keywords \@pdfkeywords}%
10206 \special{PDF: Title \@pdftitle}%
10207 \special{PDF: Creator \@pdfcreator}%
10208 \ifx\@pdfcreationdate\@empty
10209 \else
10210 \special{PDF: CreationDate \@pdfcreationdate}%
10211 \fi
10212 \ifx\@pdfmoddate\@empty
10213 \else
10214 \special{PDF: ModDate \@pdfmoddate}%
10215 \fi
10216 \special{PDF: Author \@pdfauthor}%
10217 \ifx\@pdfproducer\relax
10218 \else
10219 \special{PDF: Producer \@pdfproducer}%
10220 \fi
10221 \special{PDF: Subject \@pdfsubject}%
10222 \Hy@DisableOption{pdfauthor}%
10223 \Hy@DisableOption{pdftitle}%
10224 \Hy@DisableOption{pdfsubject}%
10225 \Hy@DisableOption{pdfcreator}%
10226 \Hy@DisableOption{pdfcreationdate}%
10227 \Hy@DisableOption{pdfmoddate}%
10228 \Hy@DisableOption{pdfproducer}%
10229 \Hy@DisableOption{pdfkeywords}%
10230 \Hy@DisableOption{pdftrapped}%
10231 \Hy@DisableOption{pdfinfo}%
10232 }
10233 \def\PDF@SetupDoc{%
10234 \ifx\@baseurl\@empty
10235 \else
10236 \special{PDF: Base \@baseurl}%
10237 \fi
10238 \ifx\@pdfpagescrop\@empty\else
10239 \special{PDF: BBox \@pdfpagescrop}%
10240 \fi
10241 \def\Hy@temp{}%
10242 \ifx\@pdfstartpage\@empty
10243 \else
10244 \ifx\@pdfstartview\@empty
10245 \else
10246 \edef\Hy@temp{%
10247 ,Page=\@pdfstartpage
10248 ,View=\@pdfstartview
10249 }%
10250 \fi
10251 \fi
10252 \edef\Hy@temp{%
10253 \noexpand\pdfmark{%
10254 pdfmark=/DOCVIEW,%
10255 PageMode=/\@pdfpagemode
10256 \Hy@temp
10257 }%
10258 }%
10259 \Hy@temp
10260 \ifx\@pdfpagescrop\@empty

```

```

10261 \else
10262   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10263 \fi
10264 \edef\Hy@temp{%
10265   \ifHy@pdftoolbar\else /HideToolbar true\fi
10266   \ifHy@pdfmenubar\else /HideMenubar true\fi
10267   \ifHy@pdfwindowui\else /HideWindowUI true\fi
10268   \ifHy@pdffitwindow /FitWindow true\fi
10269   \ifHy@pdfcenterwindow /CenterWindow true\fi
10270   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10271   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10272   \Hy@UseNameKey{Direction}\@pdfdirection
10273   \Hy@UseNameKey{ViewArea}\@pdfviewarea
10274   \Hy@UseNameKey{ViewClip}\@pdfviewclip
10275   \Hy@UseNameKey{PrintArea}\@pdfprintarea
10276   \Hy@UseNameKey{PrintClip}\@pdfprintclip
10277   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10278   \Hy@UseNameKey{Duplex}\@pdfduplex
10279   \ifx\@pdfpicktraybypdfsize\@empty
10280   \else
10281     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10282   \fi
10283   \ifx\@pdfprintpagerange\@empty
10284   \else
10285     /PrintPageRange[\@pdfprintpagerange]%
10286   \fi
10287   \ifx\@pdfnumcopies\@empty
10288   \else
10289     /NumCopies \@pdfnumcopies
10290   \fi
10291 }%
10292 \pdfmark{pdfmark=/PUT,%
10293   Raw={%
10294     \string{Catalog\string}<<%
10295     \ifx\Hy@temp\@empty
10296     \else
10297       /ViewerPreferences<<\Hy@temp>>%
10298     \fi
10299     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10300     \ifx\@pdflang\@empty
10301     \else
10302       /Lang(\@pdflang)%
10303     \fi
10304     >>%
10305   }%
10306 }%
10307 }
10308 </dviwindo>
10309 <*dvipdfm|xetex>

```

## 47.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

10310 \providecommand*\XR@ext}{pdf}
10311 \Hy@setbreaklinks{true}
10312 \def\HyPat@ObjRef{%
10313   @[\^ ]+%

```

```

10314 }
10315 \newsavebox{\pdfm@box}
10316 \def\@pdfm@mark#1{\special{pdf:#1}}
10317 \Hy@WrapperDef\@pdfm@dest#1{%
10318   \Hy@SaveLastskip
10319   \Hy@VerboseAnchor{#1}%
10320   \begingroup
10321     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10322     \def\x{XYZ}%
10323     \ifx\x\@pdfview
10324       \def\x{XYZ @xpos @ypos null}%
10325     \else
10326       \def\x{FitH}%
10327       \ifx\x\@pdfview
10328         \def\x{FitH @ypos}%
10329       \else
10330         \def\x{FitBH}%
10331         \ifx\x\@pdfview
10332           \def\x{FitBH @ypos}%
10333         \else
10334           \def\x{FitV}%
10335           \ifx\x\@pdfview
10336             \def\x{FitV @xpos}%
10337           \else
10338             \def\x{FitBV}%
10339             \ifx\x\@pdfview
10340               \def\x{FitBV @xpos}%
10341             \else
10342               \def\x{Fit}%
10343               \ifx\x\@pdfview
10344                 \let\x\@pdfview
10345               \else
10346                 \def\x{FitB}%
10347                 \ifx\x\@pdfview
10348                   \let\x\@pdfview
10349                 \else
10350                   \def\x{FitR}%
10351                   \ifx\x\@pdfview
10352                     \Hy@Warning{'pdfview=FitR' is not supported}%
10353                     \def\x{XYZ @xpos @ypos null}%
10354                   \else
10355                     \@onelevel@sanitize\@pdfview
10356                     \Hy@Warning{%
10357                       Unknown value '\@pdfview' for pdfview%
10358                     }%
10359                     \def\x{XYZ @xpos @ypos null}%
10360                   \fi
10361                 \fi
10362             \fi
10363           \fi
10364         \fi
10365       \fi
10366     \fi
10367   \fi
10368   \@pdfm@mark{dest (\Hy@pstringDest) [thispage /\x]}%
10369 \endgroup
10370 \Hy@RestoreLastskip

```

```

10371 }
10372 \providecommand*\@pdfview{XYZ}
10373 \providecommand*\@pdfborder{0 0 1}
10374 \providecommand*\@pdfborderstyle{}
10375 \def\hyper@anchor#1{%
10376   \@pdfm@dest{#1}%
10377 }
10378 \def\hyper@anchorstart#1{%
10379   \Hy@activeanchortrue
10380   \@pdfm@dest{#1}%
10381 }
10382 \def\hyper@anchorend{%
10383   \Hy@activeanchorfalse
10384 }
10385 \newcounter{Hy@AnnotLevel}
10386 \ifHy@ocgcolorlinks
10387   \def\OBJ@OCG@view{@OCG@view}%
10388   \@pdfm@mark{%
10389     obj \OBJ@OCG@view <<%
10390       /Type/OCG%
10391       /Name(View)%
10392       /Usage<<%
10393       /Print<<%
10394       /PrintState/OFF%
10395       >>%
10396       /View<<%
10397       /ViewState/ON%
10398       >>%
10399       >>%
10400     }%
10401   }%
10402   \@pdfm@mark{close \OBJ@OCG@view}%
10403   \def\OBJ@OCG@print{@OCG@print}%
10404   \@pdfm@mark{%
10405     obj \OBJ@OCG@print <<%
10406       /Type/OCG%
10407       /Name(Print)%
10408       /Usage<<%
10409       /Print<<%
10410       /PrintState/ON%
10411       >>%
10412       /View<<%
10413       /ViewState/OFF%
10414       >>%
10415       >>%
10416     }%
10417   }%
10418   \@pdfm@mark{close \OBJ@OCG@print}%
10419   \def\OBJ@OCGs{@OCGs}%
10420   \@pdfm@mark{%
10421     obj \OBJ@OCGs [%
10422       \OBJ@OCG@view\space\OBJ@OCG@print
10423     ]%
10424   }%
10425   \@pdfm@mark{close \OBJ@OCGs}%
10426   \@pdfm@mark{%
10427     put @catalog <<%

```

```

10428 /OCProperties<<%
10429 /OCGs \OBJ@OCGs
10430 /D<<%
10431 /OFF[\OBJ@OCG@print]%
10432 /AS[%
10433 <<%
10434 /Event/View%
10435 /OCGs \OBJ@OCGs
10436 /Category[/View]%
10437 >>%
10438 <<%
10439 /Event/Print%
10440 /OCGs \OBJ@OCGs
10441 /Category[/Print]%
10442 >>%
10443 <<%
10444 /Event/Export%
10445 /OCGs \OBJ@OCGs
10446 /Category[/Print]%
10447 >>%
10448 ]%
10449 >>%
10450 >>%
10451 >>%
10452 }%
10453 \AtBeginShipout{%
10454 \setbox\AtBeginShipoutBox=\hbox{%
10455 \copy\AtBeginShipoutBox
10456 \@pdfm@mark{%
10457 put @resources <<%
10458 /Properties<<%
10459 /OCView \OBJ@OCG@view
10460 /OCPrint \OBJ@OCG@print
10461 >>%
10462 >>%
10463 }%
10464 }%
10465 }%
10466 \Hy@AtBeginDocument{%
10467 \def\Hy@colorlink#1{%
10468 \begingroup
10469 \ifHy@ocgcolorlinks
10470 \def\Hy@ocgcolor{#1}%
10471 \setbox0=\hbox\bgroup\color@begingroup
10472 \else
10473 \HyColor@UseColor#1%
10474 \fi
10475 }%
10476 \def\Hy@endcolorlink{%
10477 \ifHy@ocgcolorlinks
10478 \color@endgroup\egroup
10479 \mbox{%
10480 \@pdfm@mark{content /OC/OCPrint BDC}%
10481 \rlap{\copy0}%
10482 \@pdfm@mark{content EMC/OC/OCView BDC}%
10483 \begingroup
10484 \expandafter\HyColor@UseColor\Hy@ocgcolor

```

```

10485         \box0 %
10486     \endgroup
10487     \@pdfm@mark{content EMC}%
10488 }%
10489 \fi
10490 \endgroup
10491 }%
10492 }%
10493 \else
10494     \Hy@DisableOption{ocgcolorlinks}%
10495 \fi

10496 \def\Hy@BeginAnnot#1{%
10497     \stepcounter{Hy@AnnotLevel}%
10498     \ifnum\value{Hy@AnnotLevel}=\@ne
10499         #1%
10500     \fi
10501 }
10502 \def\Hy@endAnnot{%
10503     \ifnum\value{Hy@AnnotLevel}=\@ne
10504         \Hy@endcolorlink
10505         \@pdfm@mark{eann}%
10506     \fi
10507     \addtocounter{Hy@AnnotLevel}\m@ne
10508 }

10509 \def\Hy@undefinedname{UNDEFINED}
10510 \def\hyper@linkstart#1#2{%
10511     \Hy@VerboseLinkStart{#1}{#2}%
10512     \leavevmode
10513     \Hy@BeginAnnot{%
10514         \protected@edef\Hy@testname{#2}%
10515         \ifx\Hy@testname\@empty
10516             \Hy@Warning{%
10517                 Empty destination name,\MessageBreak
10518                 using '\Hy@undefinedname'%
10519             }%
10520         \let\Hy@testname\Hy@undefinedname
10521     \else
10522         \Hy@pstringdef\Hy@testname{%
10523             \expandafter\HyperDestNameFilter\expandafter{%
10524                 \Hy@testname
10525             }%
10526         }%
10527     \fi
10528     \@pdfm@mark{%
10529         bann<<%
10530         /Type/Annot%
10531         /Subtype/Link%
10532         \ifHy@pdfa /F 4\fi
10533         \Hy@setpdfborder
10534         \expandafter\ifx\csname @#1bordercolor\endcsname\relax
10535         \else
10536             /C[\csname @#1bordercolor\endcsname]%
10537         \fi
10538         /A<<%
10539         /S/GoTo%
10540         /D(\Hy@testname)%
10541         \Hy@href@nextactionraw

```



```

10542     >>%
10543     >>%
10544     }%
10545     \expandafter\Hy@colorlink\csname @#1color\endcsname
10546     }%
10547 }
10548 \def\hyper@linkend{\Hy@EndAnnot}%
10549 \def\hyper@link#1#2#3{%
10550   \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10551 }
10552 \def\hyper@linkfile#1#2#3{%
10553   \leavevmode
10554   \Hy@BeginAnnot{%
10555     \def\Hy@pstringF{#2}%
10556     \Hy@CleanupFile\Hy@pstringF
10557     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10558     \Hy@pstringdef\Hy@pstringD{#3}%
10559     \Hy@MakeRemoteAction
10560     \@pdfm@mark{%
10561       bann<<%
10562         /Type/Annot%
10563         /Subtype/Link%
10564         \ifHy@pdfa /F 4\fi
10565         \Hy@setpdfborder
10566         \ifx\@filebordercolor\relax
10567           \else
10568             /C[\@filebordercolor]%
10569           \fi
10570         /A<<%
10571         /S/GoToR%
10572         /F(\Hy@pstringF)%
10573         /D%
10574         \ifx\#3\%
10575           [\Hy@href@page\@pdfremotestartview]%
10576         \else
10577           (\Hy@pstringD)%
10578         \fi
10579         \Hy@SetNewWindow
10580         \Hy@href@nextactionraw
10581       >>%
10582       >>%
10583     }%
10584     \Hy@colorlink\@filecolor
10585   }%
10586   #1\Hy@xspace@end
10587   \Hy@EndAnnot
10588 }
10589 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
10590   \leavevmode
10591   \Hy@BeginAnnot{%
10592     \Hy@pstringdef\Hy@pstringF{#1}%
10593     \Hy@pstringdef\Hy@pstringP{#3}%
10594     \@pdfm@mark{%
10595       bann<<%
10596         /Type/Annot%
10597         /Subtype/Link%
10598         \ifHy@pdfa /F 4\fi

```

```

10599 \Hy@setpdfborder
10600 \ifx\@runbordercolor\relax
10601 \else
10602 /C[\@runbordercolor]%
10603 \fi
10604 /A<<%
10605 /F(\Hy@pstringF)%
10606 /S/Launch%
10607 \Hy@SetNewWindow
10608 \ifx\#3\%
10609 \else
10610 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10611 \fi
10612 \Hy@href@nextactionraw
10613 >>%
10614 >>%
10615 }%
10616 \Hy@colorlink\@runcolor
10617 }%
10618 #2\Hy@xspace@end
10619 \Hy@EndAnnot
10620 }
10621 \def\hyper@linkurl#1#2{%
10622 \leavevmode
10623 \Hy@BeginAnnot{%
10624 \Hy@pstringdef\Hy@pstringURI{#2}%
10625 \@pdfm@mark{%
10626 bann<<%
10627 /Type/Annot%
10628 /Subtype/Link%
10629 \ifHy@pdfa /F 4\fi
10630 \Hy@setpdfborder
10631 \ifx\@urlbordercolor\relax
10632 \else
10633 /C[\@urlbordercolor]%
10634 \fi
10635 /A<<%
10636 /S/URI%
10637 /URI(\Hy@pstringURI)%
10638 \ifHy@href@ismap
10639 /IsMap true%
10640 \fi
10641 \Hy@href@nextactionraw
10642 >>%
10643 >>%
10644 }%
10645 \Hy@colorlink\@urlcolor
10646 }%
10647 #1\Hy@xspace@end
10648 \Hy@EndAnnot
10649 }
10650 \def\Acrobatmenu#1#2{%
10651 \Hy@Acrobatmenu{#1}{#2}{%
10652 \Hy@BeginAnnot{%
10653 \EdefEscapeName\Hy@temp@menu{#1}%
10654 \@pdfm@mark{%
10655 bann<<%

```

```

10656      /Type/Annot%
10657      /Subtype/Link%
10658      \ifHy@pdfa /F 4\fi
10659      \Hy@setpdfborder
10660      \ifx\@menubordercolor\relax
10661      \else
10662      /C[\@menubordercolor]%
10663      \fi
10664      /A<<%
10665      /S/Named%
10666      /N/\Hy@temp@menu
10667      \Hy@href@nextactionraw
10668      >>%
10669      >>%
10670      }%
10671      \Hy@colorlink\@menucolor
10672      }%
10673      #2\Hy@xspace@end
10674      \Hy@endAnnot
10675      }%
10676    }
10677    \ifx\@pdfproducer\relax
10678    \def\@pdfproducer{dvipdfm}%

```

Detect XeTeX. However, but xdvipdfmx will overwrite it in the final PDF file.

```

10679    \begingroup\expandafter\expandafter\expandafter\endgroup
10680    \expandafter\ifx\csname XeTeXversion\endcsname\relax
10681    \else
10682    \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10683    \fi
10684    \fi
10685    \def\PDF@FinishDoc{%
10686    \Hy@UseMaketitleInfos
10687    \HyInfo@GenerateAddons
10688    \@pdfm@mark{%
10689    docinfo<<%
10690    /Title(\@pdftitle)%
10691    /Subject(\@pdfsubject)%
10692    /Creator(\@pdfcreator)%
10693    \ifx\@pdfcreationdate\@empty
10694    \else
10695    /CreationDate(\@pdfcreationdate)%
10696    \fi
10697    \ifx\@pdfmoddate\@empty
10698    \else
10699    /ModDate(\@pdfmoddate)%
10700    \fi
10701    /Author(\@pdfauthor)%
10702    \ifx\@pdfproducer\relax
10703    \else
10704    /Producer(\@pdfproducer)%
10705    \fi
10706    /Keywords(\@pdfkeywords)%
10707    \ifx\@pdftrapped\@empty
10708    \else
10709    /Trapped/\@pdftrapped
10710    \fi
10711    \HyInfo@Addons

```

```

10712 >>%
10713 }%
10714 \Hy@DisableOption{pdfauthor}%
10715 \Hy@DisableOption{pdftitle}%
10716 \Hy@DisableOption{pdfsubject}%
10717 \Hy@DisableOption{pdfcreator}%
10718 \Hy@DisableOption{pdfcreationdate}%
10719 \Hy@DisableOption{pdfmoddate}%
10720 \Hy@DisableOption{pdfproducer}%
10721 \Hy@DisableOption{pdfkeywords}%
10722 \Hy@DisableOption{pdftrapped}%
10723 \Hy@DisableOption{pdfinfo}%
10724 }

10725 \def\PDF@SetupDoc{%
10726 \edef\Hy@temp{%
10727 \ifHy@pdftoolbar\else /HideToolbar true\fi
10728 \ifHy@pdfmenubar\else /HideMenubar true\fi
10729 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10730 \ifHy@pdfwindow /FitWindow true\fi
10731 \ifHy@pdfcenterwindow /CenterWindow true\fi
10732 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10733 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10734 \Hy@UseNameKey{Direction}\@pdfdirection
10735 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10736 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10737 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10738 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10739 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10740 \Hy@UseNameKey{Duplex}\@pdfduplex
10741 \ifx\@pdfpicktraybypdfsize\@empty
10742 \else
10743 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10744 \fi
10745 \ifx\@pdfprintpagerange\@empty
10746 \else
10747 /PrintPageRange[\@pdfprintpagerange]%
10748 \fi
10749 \ifx\@pdfnumcopies\@empty
10750 \else
10751 /NumCopies \@pdfnumcopies
10752 \fi
10753 }%
10754 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10755 \@pdfm@mark{%
10756 docview<<%
10757 \ifx\@pdfstartpage\@empty
10758 \else
10759 \ifx\@pdfstartview\@empty
10760 \else
10761 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10762 \fi
10763 \fi
10764 \ifx\@baseurl\@empty
10765 \else
10766 /URI<</Base(\Hy@pstringB)>>%
10767 \fi
10768 /PageMode/\@pdfpagemode

```

```

10769 \ifx\Hy@temp\@empty
10770 \else
10771 /ViewerPreferences<<\Hy@temp>>%
10772 \fi
10773 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10774 \ifx\@pdflang\@empty
10775 \else
10776 /Lang(\@pdflang)%
10777 \fi
10778 >>%
10779 }%
10780 \ifx\@pdfpagescrop\@empty
10781 \else
10782 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10783 \fi
10784 }
10785 </dvipdfm | xetex>
10786 <*dvipdfm | xetex>

```

\hyper@pagetransition

```

10787 \def\hyper@pagetransition{%
10788 \ifx\@pdfpagetransition\relax
10789 \else
10790 \ifx\@pdfpagetransition\@empty
10791 \else
10792 \special{pdf:put @thispage %
10793 <</Trans<</S/\@pdfpagetransition>>>>%
10794 }%
10795 \fi
10796 \fi
10797 }

```

\hyper@pageduration

```

10798 \def\hyper@pageduration{%
10799 \ifx\@pdfpageduration\relax
10800 \else
10801 \ifx\@pdfpageduration\@empty
10802 \else
10803 \special{pdf:put @thispage %
10804 <</Dur \@pdfpageduration>>>>%
10805 }%
10806 \fi
10807 \fi
10808 }

```

\hyper@pagehidden

```

10809 \def\hyper@pagehidden{%
10810 \ifHy@useHidKey
10811 \special{pdf:put @thispage %
10812 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10813 }%
10814 \fi
10815 }

10816 \g@addto@macro\Hy@EveryPageBoxHook{%
10817 \hyper@pagetransition
10818 \hyper@pageduration

```

```

10819 \hyper@pagehidden
10820 }
10821 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method `\pdfpagewidth` and `\pdfpageheight` for setting the paper size.

```

10822 <*dvipdfm>
10823 \AtBeginShipoutFirst{%
10824   \ifHy@setpagesize
10825     \begingroup
10826       \@ifundefined{stockwidth}{%
10827         \ifdim\paperwidth>\z@
10828           \ifdim\paperheight>\z@
10829             \special{papersize=\the\paperwidth,\the\paperheight}%
10830           \fi
10831         \fi
10832       }{%
10833         \ifdim\stockwidth>\z@
10834           \ifdim\stockheight>\z@
10835             \special{papersize=\the\stockwidth,\the\stockheight}%
10836           \fi
10837         \fi
10838       }%
10839     \endgroup
10840   \fi
10841   \Hy@DisableOption{setpagesize}%
10842 }
10843 </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.

```

10844 <*vtexhtml>
10845 \providecommand*{\XR@ext}{htm}
10846 \RequirePackage{vtexhtml}
10847 \newif\if@Localurl
10848 \let\PDF@FinishDoc\ltx@empty
10849 \def\PDF@SetupDoc{%
10850   \ifx\@baseurl\@empty
10851     \else
10852       \special{!direct <base href="\@baseurl">}%
10853     \fi
10854 }
10855 \def\@urltype{url}
10856 \def\hyper@link#1#2#3{%
10857   \Hy@VerboseLinkStart{#1}{#2}%
10858   \leavevmode
10859   \special{!direct <a href=%
10860     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10861   #3\Hy@xspace@end
10862   \special{!direct </a>}%
10863 }
10864 \def\hyper@linkurl#1#2{%
10865   \begingroup
10866   \hyper@chars
10867   \leavevmode

```

```

10868 \MathBSuppress=1\relax
10869 \special{!direct <a href=%
10870 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}}%
10871 #1\Hy@xspace@end
10872 \MathBSuppress=0\relax
10873 \special{!direct </a>}}%
10874 \endgroup
10875 }
10876 \def\hyper@linkfile#1#2#3{%
10877 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
10878 }
10879 \def\hyper@linkstart#1#2{%
10880 \Hy@VerboseLinkStart{#1}{#2}%
10881 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
10882 \@Localurltrue
10883 \special{!direct <a href=\hyper@quote#2\hyper@quote>}}%
10884 \else
10885 \@Localurlfalse
10886 \begingroup
10887 \hyper@chars
10888 \special{!aref \HyperDestNameFilter{#2}}}%
10889 \endgroup
10890 \fi
10891 }
10892 \def\hyper@linkend{%
10893 \if@Localurl
10894 \special{!endaref}}%
10895 \else
10896 \special{!direct </a>}}%
10897 \fi
10898 }
10899 \Hy@WrapperDef\hyper@anchorstart#1{%
10900 \Hy@SaveLastskip
10901 \Hy@VerboseAnchor{#1}%
10902 \begingroup
10903 \hyper@chars
10904 \special{!aname #1}%
10905 \special{!direct <a name=%
10906 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
10907 \endgroup
10908 \Hy@activeanchortrue
10909 }
10910 \def\hyper@anchorend{%
10911 \special{!direct </a>}}%
10912 \Hy@activeanchorfalse
10913 \Hy@RestoreLastskip
10914 }
10915 \Hy@WrapperDef\hyper@anchor#1{%
10916 \Hy@SaveLastskip
10917 \Hy@VerboseAnchor{#1}%
10918 \begingroup
10919 \let\protect=\string
10920 \hyper@chars
10921 \leavevmode
10922 \special{!aname #1}%
10923 \special{!direct <a name=%
10924 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%

```

```

10925 \endgroup
10926 \Hy@activeanchortrue
10927 \bgroup\anchor@spot\egroup
10928 \special{!direct </a>}%
10929 \Hy@activeanchorfalse
10930 \Hy@RestoreLastskip
10931 }
10932 \def\@Form[#1]{%
10933 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10934 }
10935 \let\@endForm\ltx@empty
10936 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10937 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10938 }
10939 \def\@TextField[#1]#2{% parameters, label
10940 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10941 }
10942 \def\@CheckBox[#1]#2{% parameters, label
10943 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10944 }
10945 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10946 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10947 }
10948 \def\@PushButton[#1]#2{% parameters, label
10949 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10950 }
10951 \def\@Reset[#1]#2{%
10952 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10953 }
10954 \def\@Submit[#1]#2{%
10955 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10956 }
10957 </vtexhtml>
10958 <*\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.

```

10959 \ifx\mediaheight\@undefined
10960 \else
10961 \ifx\mediaheight\relax
10962 \else
10963 \ifHy@setpagesize
10964 \providecommand*\VTeXInitMediaSize{%
10965 \ltx@ifundefined{stockwidth}{%
10966 \ifdim\paperheight>0pt %
10967 \setlength\mediaheight\paperheight
10968 \fi
10969 \ifdim\paperheight>0pt %
10970 \setlength\mediawidth\paperwidth
10971 \fi
10972 }{%
10973 \ifdim\stockheight>0pt %
10974 \setlength\mediaheight\stockheight
10975 \fi
10976 \ifdim\stockwidth>0pt %
10977 \setlength\mediawidth\stockwidth

```



```

10978         \fi
10979     }%
10980 }%
10981 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10982 \fi
10983 \Hy@DisableOption{setpagesize}%
10984 \fi
10985 \fi

```

Older versions of VTeX require xyz in lower case.

```

10986 \providecommand*\@pdfview{xyz}
10987 \providecommand*\@pdfborder{0 0 1}
10988 \providecommand*\@pdfborderstyle{}
10989 \let\CurrentBorderColor\@linkbordercolor
10990 \Hy@WrapperDef\hyper@anchor#1{%
10991     \Hy@SaveLastskip
10992     \Hy@VerboseAnchor{#1}%
10993     \begingroup
10994         \let\protect=\string
10995         \hyper@chars
10996         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10997     \endgroup
10998     \Hy@activeanchortrue
10999     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11000     \Hy@activeanchorfalse
11001     \Hy@RestoreLastskip
11002 }
11003 \Hy@WrapperDef\hyper@anchorstart#1{%
11004     \Hy@SaveLastskip
11005     \Hy@VerboseAnchor{#1}%
11006     \begingroup
11007         \hyper@chars
11008         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
11009     \endgroup
11010     \Hy@activeanchortrue
11011 }
11012 \def\hyper@anchorend{%
11013     \Hy@activeanchorfalse
11014     \Hy@RestoreLastskip
11015 }
11016 \def\@urltype{url}
11017 \def\Hy@undefinedname{UNDEFINED}
11018 \def\hyper@linkstart#1#2{%
11019     \Hy@VerboseLinkStart{#1}{#2}%
11020     \Hy@pstringdef\Hy@pstringURI{#2}%
11021     \expandafter\Hy@colorlink\csname @#1color\endcsname
11022     \ltx@ifundefined{@#1bordercolor}{%
11023         \let\CurrentBorderColor\relax
11024     }{%
11025         \edef\CurrentBorderColor{%
11026             \csname @#1bordercolor\endcsname
11027         }%
11028     }%
11029     \def\Hy@tempa{#1}%
11030     \ifx\Hy@tempa\@urltype
11031         \special{!%
11032             aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11033             \ifHy@href@ismap

```

```

11034      /IsMap true%
11035      \fi
11036      \Hy@href@nextactionraw
11037      >;%
11038      a=<%
11039      \ifHy@pdfa /F 4\fi
11040      \Hy@setpdfborder
11041      \ifx\CurrentBorderColor\relax
11042      \else
11043      /C [\CurrentBorderColor]%
11044      \fi
11045      >%
11046      }%
11047  \else
11048  \protected@edef\Hy@testname{#2}%
11049  \ifx\Hy@testname\@empty
11050  \Hy@Warning{%
11051    Empty destination name,\MessageBreak
11052    using '\Hy@undefinedname'%
11053  }%
11054  \let\Hy@testname\Hy@undefinedname
11055  \fi
11056  \special{!%
11057    aref \expandafter\HyperDestNameFilter
11058    \expandafter{\Hy@testname};%
11059    a=<%
11060    \ifHy@pdfa /F 4\fi
11061    \Hy@setpdfborder
11062    \ifx\CurrentBorderColor\relax
11063    \else
11064    /C [\CurrentBorderColor]%
11065    \fi
11066    >%
11067    }%
11068  \fi
11069 }
11070 \def\hyper@linkend{%
11071   \special{!endaref}%
11072   \Hy@endcolorlink
11073 }
11074 \def\hyper@linkfile#1#2#3{%
11075   \leavevmode
11076   \def\Hy@pstringF{#2}%
11077   \Hy@CleanupFile\Hy@pstringF
11078   \special{!%
11079     aref <%
11080     \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
11081     f=\Hy@pstringF>#3;%
11082     a=<%
11083     \ifHy@pdfa /F 4\fi
11084     \Hy@setpdfborder
11085     \ifx\@filebordercolor\relax
11086     \else
11087     /C [\@filebordercolor]%
11088     \fi
11089     >%
11090     }%

```

```

11091 \Hy@colorlink\@filecolor
11092 #1\Hy@xspace@end
11093 \Hy@endcolorlink
11094 \special{!endaref}%
11095 }
11096 \def\hyper@linkurl#1#2{%
11097 \begingroup
11098 \Hy@pstringdef\Hy@pstringURI{#2}%
11099 \hyper@chars
11100 \leavevmode
11101 \special{!%
11102   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11103   \ifHy@href@ismap
11104     /IsMap true%
11105   \fi
11106   \Hy@href@nextactionraw
11107   >,%
11108   a=<%
11109   \ifHy@pdfa /F 4\fi
11110   \Hy@setpdfborder
11111   \ifx\@urlbordercolor\relax
11112   \else
11113     /C [\@urlbordercolor]%
11114   \fi
11115   >%
11116 }%
11117 \Hy@colorlink\@urlcolor
11118 #1\Hy@xspace@end
11119 \Hy@endcolorlink
11120 \special{!endaref}%
11121 \endgroup
11122 }
11123 \def\hyper@link#1#2#3{%
11124 \Hy@VerboseLinkStart{#1}{#2}%
11125 \ltx@ifundefined{@#1bordercolor}{%
11126 \let\CurrentBorderColor\relax
11127 }{%
11128 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
11129 }%
11130 \leavevmode
11131 \protected@edef\Hy@testname{#2}%
11132 \ifx\Hy@testname\@empty
11133 \Hy@Warning{%
11134   Empty destination name,\MessageBreak
11135   using '\Hy@undefinedname'%
11136 }%
11137 \let\Hy@testname\Hy@undefinedname
11138 \fi
11139 \special{!%
11140   aref \expandafter\HyperDestNameFilter
11141     \expandafter{\Hy@testname};%
11142   a=<%
11143   \ifHy@pdfa /F 4\fi
11144   \Hy@setpdfborder
11145   \ifx\CurrentBorderColor\relax
11146   \else
11147     /C [\CurrentBorderColor]%

```

```

11148 \fi
11149 >%
11150 }%
11151 \expandafter
11152 \Hy@colorlink\csname @#1color\endcsname
11153 #3\Hy@xspace@end
11154 \Hy@endcolorlink
11155 \special{!endaref}%
11156 }
11157 \def\hyper@image#1#2{%
11158 \hyper@linkurl{#2}{#1}%
11159 }
11160 \def\@hyper@launch run:#1\#2#3{%
11161 \Hy@pstringdef\Hy@pstringF{#1}%
11162 \Hy@pstringdef\Hy@pstringP{#3}%
11163 \leavevmode
11164 \special{!aref %
11165 <u=%
11166 /Type/Action%
11167 /S/Launch%
11168 /F(\Hy@pstringF)%
11169 \Hy@SetNewWindow
11170 \ifx\#3\%
11171 \else
11172 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
11173 \fi
11174 \Hy@href@nextactionraw
11175 >,%
11176 a=<%
11177 \ifHy@pdfa /F 4\fi
11178 \Hy@setpdfborder
11179 \ifx\@runbordercolor\relax
11180 \else
11181 /C[\@runbordercolor]%
11182 \fi
11183 >%
11184 }%
11185 \Hy@colorlink\@runcolor
11186 #2\Hy@xspace@end
11187 \Hy@endcolorlink
11188 \special{!endaref}%
11189 }
11190 \def\Acrobatmenu#1#2{%
11191 \EdefEscapeName\Hy@temp@menu{#1}%
11192 \Hy@Acrobatmenu{#1}{#2}{%
11193 \special{!%
11194 aref <u=/S /Named /N /\Hy@temp@menu>;%
11195 a=<%
11196 \ifHy@pdfa /F 4\fi
11197 \Hy@setpdfborder
11198 \ifx\@menubordercolor\relax
11199 \else
11200 /C[\@menubordercolor]%
11201 \fi
11202 >%
11203 }%
11204 \Hy@colorlink\@menucolor

```

```

11205      #2\Hy@xspace@end
11206      \Hy@endcolorlink
11207      \special{!endaref}%
11208    }%
11209  }

```

The following code (transition effects) is made by Alex Kostin.  
The code below makes sense for V<sub>T</sub>E<sub>X</sub> 7.02 or later.  
Please never use `\@ifundefined{VTeXversion}{..}{..}` *globally*.

```

11210 \ifnum\Hy@VTeXversion<702 %
11211 \else
11212   \def\hyper@pagetransition{%
11213     \ifx\@pdfpagetransition\relax
11214     \else
11215     \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

11216   \else
11217     \hvtex@parse@trans\@pdfpagetransition
11218   \fi
11219 \fi
11220 }%

```

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:

```

11221 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
11222 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
11223 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
11224 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
11225 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
11226 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
11227 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

11228 \def\hvtex@par@dimension{/Dm}%
11229 \def\hvtex@par@direction{/Di}%
11230 \def\hvtex@par@duration{/D}%
11231 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```
11232 \def\hvtex@gettoken{%
11233   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
11234 }%
```

Notice that tokens in the input buffer must be space delimited.

```
11235 \def\hvtex@gettoken@#1 #2\@nil{%
11236   \edef\hvtex@token{#1}%
11237   \edef\hvtex@buffer{#2}%
11238 }%
11239 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
11240 \let\hvtex@trans@code\@empty
11241 \let\hvtex@param@dimension\@empty
11242 \let\hvtex@param@direction\@empty
11243 \let\hvtex@param@duration\@empty
11244 \let\hvtex@param@motion\@empty
11245 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
11246 \hvtex@gettoken
11247 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
11248   \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
11249   \else
11250     \hvtex@gettoken
11251   \fi
11252 \fi
11253 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
11254 \hvtex@trans@params
11255 }%
```

Reentrant macro to parse optional parameters.

```
11256 \def\hvtex@trans@params{%
11257   \ifx\hvtex@buffer\@empty
11258   \else
11259     \hvtex@gettoken
11260     \let\hvtex@trans@par\hvtex@token
11261     \ifx\hvtex@buffer\@empty
11262     \else
11263       \hvtex@gettoken
11264       \ifx\hvtex@trans@par\hvtex@par@duration
```

/D is the effect duration in seconds. V<sub>TEX</sub> special takes it in milliseconds.

```
11265       \let\hvtex@param@duration\hvtex@token
11266     \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
11267       \expandafter\edef\expandafter\hvtex@param@motion
11268       \expandafter{\expandafter\@gobble\hvtex@token}%
11269     \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
11270       \expandafter\edef\expandafter\hvtex@param@dimension
11271       \expandafter{\expandafter\@gobble\hvtex@token}%
11272     \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).

```

11273      \let\hvtex@param@direction\hvtex@token
11274      \fi\fi\fi\fi
11275      \fi
11276      \fi
11277      \ifx\hvtex@buffer\@empty
11278      \let\next\hvtex@produce@trans
11279      \else
11280      \let\next\hvtex@trans@params
11281      \fi
11282      \next
11283  }%

```

Merge <transition\_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

11284  \def\hvtex@produce@trans{%
11285  \let\vtex@trans@special\@empty
11286  \if S\hvtex@trans@code
11287  \edef\vtex@trans@special{\hvtex@trans@code
11288  \hvtex@param@dimension\hvtex@param@motion}%
11289  \else\if B\hvtex@trans@code
11290  \edef\vtex@trans@special{%
11291  \hvtex@trans@code\hvtex@param@dimension
11292  }%
11293  \else\if X\hvtex@trans@code
11294  \edef\vtex@trans@special{%
11295  \hvtex@trans@code\hvtex@param@motion
11296  }%
11297  \else\if W\hvtex@trans@code
11298  \edef\vtex@trans@special{%
11299  \hvtex@trans@code\hvtex@param@direction
11300  }%
11301  \else\if D\hvtex@trans@code
11302  \let\vtex@trans@special\hvtex@trans@code
11303  \else\if R\hvtex@trans@code
11304  \let\vtex@trans@special\hvtex@trans@code
11305  \else\if G\hvtex@trans@code
11306  \edef\vtex@trans@special{%
11307  \hvtex@trans@code\hvtex@param@direction
11308  }%
11309  \fi\fi\fi\fi\fi\fi
11310  \ifx\vtex@trans@special\@empty
11311  \else
11312  \ifx\hvtex@param@duration\@empty
11313  \else
11314  \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

11315  \multiply\dimen@\@m
11316  \edef\vtex@trans@special{%
11317  \vtex@trans@special,\strip@pt\dimen@
11318  }%
11319  \fi

```

And all the mess is just for this.

```

11320  \special{!trans \vtex@trans@special}%
11321  \fi

```

```

11322 }%
11323 \def\hyper@pageduration{%
11324 \ifx\@pdfpageduration\relax
11325 \else
11326 \ifx\@pdfpageduration\@empty
11327 \special{!duration-}%
11328 \else
11329 \special{!duration \@pdfpageduration}%
11330 \fi
11331 \fi
11332 }%
11333 \def\hyper@pagehidden{%
11334 \ifHy@useHidKey
11335 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
11336 \fi
11337 }%
11338 \g@addto@macro\Hy@EveryPageBoxHook{%
11339 \hyper@pagetransition
11340 \hyper@pageduration
11341 \hyper@pagehidden
11342 }%
11343 \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

```

11344 \ifx\@pdfproducer\relax
11345 \def\@pdfproducer{VTeX}%
11346 \ifnum\Hy@VTeXversion>\z@
11347 \count@\VTeXversion
11348 \divide\count@ 100 %
11349 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
11350 \multiply\count@ -100 %
11351 \advance\count@\VTeXversion
11352 \edef\@pdfproducer{%
11353 \@pdfproducer
11354 .\ifnum\count@<10 0\fi\the\count@
11355 \ifx\VTeXOS\@undefined\else
11356 \ifnum\VTeXOS>0 %
11357 \ifnum\VTeXOS<6 %
11358 \space%
11359 \ifcase\VTeXOS
11360 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
11361 \fi
11362 )%
11363 \fi
11364 \fi
11365 \fi
11366 ,\space
11367 \ifnum\OpMode=\@ne PDF\else PS\fi

```



```

11368 \space backend%
11369 \ifx\gexmode\@undefined\else
11370 \ifnum\gexmode>\z@\space with GeX\fi
11371 \fi
11372 }%
11373 \fi
11374 \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).

```

11375 \def\PDF@SetupDoc{%
11376 \ifx\@pdfpagescrop\@empty
11377 \else
11378 \special{!pdfinfo b=<\@pdfpagescrop>}%
11379 \fi
11380 \ifx\@pdfstartpage\@empty
11381 \else
11382 \ifx\@pdfstartview\@empty
11383 \else
11384 \special{!onopen Page\@pdfstartpage}%
11385 \fi
11386 \fi
11387 \special{!pdfinfo p=</\@pdfpagemode>}%
11388 \ifx\@baseurl\@empty
11389 \else
11390 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
11391 \fi
11392 \special{!pdfinfo v=<<<%
11393 \ifHy@pdftoolbar\else /HideToolbar true\fi
11394 \ifHy@pdfmenubar\else /HideMenubar true\fi
11395 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11396 \ifHy@pdffitwindow /FitWindow true\fi
11397 \ifHy@pdfcenterwindow /CenterWindow true\fi
11398 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11399 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11400 \Hy@UseNameKey{Direction}\@pdfdirection
11401 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11402 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11403 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11404 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11405 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11406 \Hy@UseNameKey{Duplex}\@pdfduplex
11407 \ifx\@pdfpicktraybypdfsize\@empty
11408 \else
11409 /PickTrayByPDFSize \@pdfpicktraybypdfsize

```

```

11410 \fi
11411 \ifx\@pdfprintpagerange\@empty
11412 \else
11413 /PrintPageRange[\@pdfprintpagerange]%
11414 \fi
11415 \ifx\@pdfnumcopies\@empty
11416 \else
11417 /NumCopies \@pdfnumcopies
11418 \fi
11419 >>>}%
11420 \ifx\@pdfpagelayout\@empty
11421 \else
11422 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
11423 \fi
11424 }%
11425 \HyInfo@AddonUnsupportedtrue
11426 \define@key{Hyp}{pdfcreationdate}{%
11427 \Hy@Warning{%
11428 VTeX does not support pdfcreationdate.\MessageBreak
11429 Therefore its setting is ignored%
11430 }%
11431 }
11432 \define@key{Hyp}{pdfmoddate}{%
11433 \Hy@Warning{%
11434 VTeX does not support pdfmoddate.\MessageBreak
11435 Therefore its setting is ignored%
11436 }%
11437 }
11438 \def\PDF@FinishDoc{%
11439 \Hy@UseMaketitleInfos
11440 \HyInfo@TrappedUnsupported
11441 \special{!pdfinfo a=<\@pdfauthor>}%
11442 \special{!pdfinfo t=<\@pdftitle>}%
11443 \special{!pdfinfo s=<\@pdfsubject>}%
11444 \special{!pdfinfo c=<\@pdfcreator>}%
11445 \ifx\@pdfproducer\relax
11446 \else
11447 \special{!pdfinfo r=<\@pdfproducer>}%
11448 \fi
11449 \special{!pdfinfo k=<\@pdfkeywords>}%
11450 \Hy@DisableOption{pdfauthor}%
11451 \Hy@DisableOption{pdftitle}%
11452 \Hy@DisableOption{pdfsubject}%
11453 \Hy@DisableOption{pdfcreator}%
11454 \Hy@DisableOption{pdfcreationdate}%
11455 \Hy@DisableOption{pdfmoddate}%
11456 \Hy@DisableOption{pdfproducer}%
11457 \Hy@DisableOption{pdfkeywords}%
11458 \Hy@DisableOption{pdftrapped}%
11459 \Hy@DisableOption{pdfinfo}%
11460 }
11461 </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.

```

11462 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
11463 <package>\providecommand*{\Hy@DistillerDestFix}{}
11464 <*pdfmark | dviwindo>
11465 \def\Hy@DistillerDestFix{%
11466   \begingroup
11467     \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

11468   \ifnum \@ifundefined{OpMode}{0}{%
11469     \@ifundefined{gexmode}{0}{%
11470       \ifnum\gexmode>0 \OpMode\else 0\fi
11471     }>1 %
11472   \def\x##1{%
11473     \immediate\special{!=##1}%
11474   }%
11475   \fi
11476   \x{%
11477     /product where{%
11478       pop %
11479       product(Distiller)search{%
11480         pop pop pop %
11481         version(.)search{%
11482           exch pop exch pop%
11483           (3011)eq{%
11484             gsave %
11485             newpath 0 0 moveto closepath clip%
11486             /Courier findfont 10 scalefont setfont %
11487             72 72 moveto(.)show %
11488             grestore%
11489           }if%
11490           }{pop}ifelse%
11491           }{pop}ifelse%
11492         }if%
11493       }%
11494     \endgroup
11495   }
11496 </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

```

11497 \*pdfmark
11498 \Hy@breaklinks@unsupported
11499 \def\HyPat@ObjRef{%
11500   \{[~{ }]+\}%
11501 }
11502 \Hy@WrapperDef\hyper@anchor#1{%
11503   \Hy@SaveLastskip
11504   \Hy@VerboseAnchor{#1}%
11505   \begingroup
11506     \pdfmark[\anchor@spot]{%
11507       pdfmark=/DEST,%
11508       linktype=anchor,%
11509       View=/\@pdfview \@pdfviewparams,%
11510       DestAnchor={#1}%
11511     }%
11512   \endgroup
11513   \Hy@RestoreLastskip
11514 }
11515 \ltx@ifundefined{hyper@anchorstart}{ }\endinput}
11516 \Hy@WrapperDef\hyper@anchorstart#1{%
11517   \Hy@SaveLastskip
11518   \Hy@VerboseAnchor{#1}%
11519   \literalps@out{H.S}%
11520   \Hy@AllowHyphens
11521   \xdef\hyper@currentanchor{#1}%
11522   \Hy@activeanchortrue
11523 }
11524 \def\hyper@anchorend{%
11525   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11526   \pdfmark{%
11527     pdfmark=/DEST,%
11528     linktype=anchor,%
11529     View=/\@pdfview \@pdfviewparams,%
11530     DestAnchor=\hyper@currentanchor,%
11531   }%
11532   \Hy@activeanchorfalse
11533   \Hy@RestoreLastskip
11534 }
11535 \def\hyper@linkstart#1#2{%
11536   \Hy@VerboseLinkStart{#1}{#2}%
11537   \ifHy@breaklinks
11538   \else
11539     \leavevmode
11540     \ifmmode
11541       \def\Hy@LinkMath{$}%
11542     \else
11543       \let\Hy@LinkMath\ltx@empty
11544     \fi
11545     \Hy@SaveSpaceFactor
11546     \hbox\bgroup
11547     \Hy@RestoreSpaceFactor
11548     \Hy@LinkMath

```

```

11549 \fi
11550 \expandafter\Hy@colorlink\csname @#1color\endcsname
11551 \literalps@out{H.S}%
11552 \Hy@AllowHyphens
11553 \xdef\hyper@currentanchor{#2}%
11554 \gdef\hyper@currentlinktype{#1}%
11555 }
11556 \def\hyper@linkend{%
11557 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11558 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11559 \let\Hy@tempcolor\relax
11560 }{%
11561 \edef\Hy@tempcolor{%
11562 \csname @\hyper@currentlinktype bordercolor\endcsname
11563 }%
11564 }%
11565 \pdfmark{%
11566 pdfmark=/ANN,%
11567 linktype=link,%
11568 Subtype=/Link,%
11569 PDFAFlags=4,%
11570 Dest=\hyper@currentanchor,%
11571 AcroHighlight=\@pdfhighlight,%
11572 Border=\@pdfborder,%
11573 BorderStyle=\@pdfborderstyle,%
11574 Color=\Hy@tempcolor,%
11575 Raw=H.B%
11576 }%
11577 \Hy@endcolorlink
11578 \ifHy@breaklinks
11579 \else
11580 \Hy@LinkMath
11581 \Hy@SaveSpaceFactor
11582 \egroup
11583 \Hy@RestoreSpaceFactor
11584 \fi
11585 }

```

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.

```

11586 \begingroup
11587 \catcode'P=12 %
11588 \catcode'T=12 %
11589 \lowercase{\endgroup
11590 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11591 }
11592 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

11593 \def\hyper@pagetransition{%
11594 \ifx\@pdfpagetransition\relax
11595 \else
11596 \ifx\@pdfpagetransition\@empty
11597 % 1. Does an old entry have to be deleted?
11598 % 2. If 1=yes, how to delete?
11599 \else

```

```

11600 \pdfmark{%
11601 pdfmark=/PUT,%
11602 Raw={%
11603 \string{ThisPage\string}%
11604 <</Trans << /S /\@pdfpagetransition\space >> >>%
11605 }%
11606 }%
11607 \fi
11608 \fi
11609 }

```

\hyper@pageduration

```

11610 \def\hyper@pageduration{%
11611 \ifx\@pdfpageduration\relax
11612 \else
11613 \ifx\@pdfpageduration\@empty
11614 % 1. Does an old entry have to be deleted?
11615 % 2. If 1=yes, how to delete?
11616 \else
11617 \pdfmark{%
11618 pdfmark=/PUT,%
11619 Raw={%
11620 \string{ThisPage\string}%
11621 <</Dur \@pdfpageduration>>%
11622 }%
11623 }%
11624 \fi
11625 \fi
11626 }

```

\hyper@pagehidden

```

11627 \def\hyper@pagehidden{%
11628 \ifHy@useHidKey
11629 \pdfmark{%
11630 pdfmark=/PUT,%
11631 Raw={%
11632 \string{ThisPage\string}%
11633 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11634 }%
11635 }%
11636 \fi
11637 }

```

```

11638 \g@addto@macro\Hy@EveryPageBoxHook{%
11639 \hyper@pagetransition
11640 \hyper@pageduration
11641 \hyper@pagehidden
11642 }

```

```

11643 \def\hyper@image#1#2{%
11644 \hyper@linkurl{#2}{#1}%
11645 }
11646 \def\Hy@undefinedname{UNDEFINED}
11647 \def\hyper@link#1#2#3{%
11648 \Hy@VerboseLinkStart{#1}{#2}%
11649 \ltx@ifundefined{@#1bordercolor}{%
11650 \let\Hy@tempcolor\relax
11651 }{%

```

```

11652 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11653 }%
11654 \begingroup
11655 \protected@edef\Hy@testname{#2}%
11656 \ifx\Hy@testname\@empty
11657 \Hy@Warning{%
11658 Empty destination name,\MessageBreak
11659 using '\Hy@undefinedname'%
11660 }%
11661 \let\Hy@testname\Hy@undefinedname
11662 \fi
11663 \pdfmark[{#3}]{%
11664 Color=\Hy@tempcolor,%
11665 linktype={#1},%
11666 AcroHighlight=\@pdfhighlight,%
11667 Border=\@pdfborder,%
11668 BorderStyle=\@pdfborderstyle,%
11669 pdfmark=/ANN,%
11670 Subtype=/Link,%
11671 PDFAFlags=4,%
11672 Dest=\Hy@testname
11673 }%
11674 \endgroup
11675 }
11676 \newtoks\pdf@docset
11677 \def\PDF@FinishDoc{%
11678 \Hy@UseMaketitleInfos
11679 \Hy@Info@GenerateAddons
11680 \let\Hy@temp\@empty
11681 \ifx\@pdfcreationdate\@empty
11682 \else
11683 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11684 \fi
11685 \ifx\@pdfmoddate\@empty
11686 \else
11687 \expandafter\def\expandafter\Hy@temp\expandafter{%
11688 \Hy@temp
11689 ModDate=\@pdfmoddate,%
11690 }%
11691 \fi
11692 \ifx\@pdfproducer\relax
11693 \else
11694 \expandafter\def\expandafter\Hy@temp\expandafter{%
11695 \Hy@temp
11696 Producer=\@pdfproducer,%
11697 }%
11698 \fi
11699 \expandafter
11700 \pdfmark\expandafter{%
11701 \Hy@temp
11702 pdfmark=/DOCINFO,%
11703 Title=\@pdftitle,%
11704 Subject=\@pdfsubject,%
11705 Creator=\@pdfcreator,%
11706 Author=\@pdfauthor,%
11707 Keywords=\@pdfkeywords,%
11708 Trapped=\@pdftrapped

```

```

11709 }%
11710 \ifx\HyInfo@Addons\@empty
11711 \else
11712 \pdfmark{%
11713 pdfmark=/DOCINFO,%
11714 Raw={\HyInfo@Addons}%
11715 }%
11716 \fi
11717 \Hy@DisableOption{pdfauthor}%
11718 \Hy@DisableOption{pdftitle}%
11719 \Hy@DisableOption{pdfsubject}%
11720 \Hy@DisableOption{pdfcreator}%
11721 \Hy@DisableOption{pdfcreationdate}%
11722 \Hy@DisableOption{pdfmoddate}%
11723 \Hy@DisableOption{pdfproducer}%
11724 \Hy@DisableOption{pdfkeywords}%
11725 \Hy@DisableOption{pdftrapped}%
11726 \Hy@DisableOption{pdfinfo}%
11727 }
11728 \def\PDF@SetupDoc{%
11729 \def\Hy@temp{}%
11730 \ifx\@pdfstartpage\@empty
11731 \else
11732 \ifx\@pdfstartview\@empty
11733 \else
11734 \edef\Hy@temp{%
11735 ,Page=\@pdfstartpage
11736 ,View=\@pdfstartview
11737 }%
11738 \fi
11739 \fi
11740 \edef\Hy@temp{%
11741 \noexpand\pdfmark{%
11742 pdfmark=/DOCVIEW,%
11743 PageMode=/\@pdfpagemode
11744 \Hy@temp
11745 }%
11746 }%
11747 \Hy@temp
11748 \ifx\@pdfpagescrop\@empty
11749 \else
11750 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11751 \fi
11752 \edef\Hy@temp{%
11753 \ifHy@pdftoolbar\else /HideToolbar true\fi
11754 \ifHy@pdfmenubar\else /HideMenubar true\fi
11755 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11756 \ifHy@pdfwindow /FitWindow true\fi
11757 \ifHy@pdfcenterwindow /CenterWindow true\fi
11758 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11759 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11760 \Hy@UseNameKey{Direction}\@pdfdirection
11761 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11762 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11763 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11764 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11765 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling

```



```

11766 \Hy@UseNameKey{Duplex}\@pdfduplex
11767 \ifx\@pdfpicktraybypdfsize\@empty
11768 \else
11769 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11770 \fi
11771 \ifx\@pdfprintpagerange\@empty
11772 \else
11773 /PrintPageRange[\@pdfprintpagerange]%
11774 \fi
11775 \ifx\@pdfnumcopies\@empty
11776 \else
11777 /NumCopies \@pdfnumcopies
11778 \fi
11779 }%
11780 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11781 \pdfmark{%
11782 pdfmark=/PUT,%
11783 Raw={%
11784 \string{Catalog\string}<<%
11785 \ifx\Hy@temp\@empty
11786 \else
11787 /ViewerPreferences<<\Hy@temp>>%
11788 \fi
11789 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11790 \ifx\@pdflang\@empty
11791 \else
11792 /Lang(\@pdflang)%
11793 \fi
11794 \ifx\@baseurl\@empty
11795 \else
11796 /URI<</Base(\Hy@pstringB)>>%
11797 \fi
11798 >>%
11799 }%
11800 }%
11801 }
11802 </pdfmark>
11803 <*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.

```

11804 \newif\ifHy@pdfmarkerror
11805 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
11806 \def\pdfmark@[#1]#2{%
11807 \Hy@pdfmarkerrorfalse
11808 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11809 \@processme
11810 \let\pdf@type\relax
11811 \kvsetkeys{PDF}{#2}%
11812 \ifHy@pdfmarkerror
11813 \else
11814 \ifx\pdf@type\relax
11815 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%

```

```

11816 \ifx\|#1\|%
11817 \else
11818 \pdf@rect{#1}%
11819 \fi
11820 \else
11821 \ifx\|#1\|%
11822 \literalps@out{%
11823 [\the\pdf@toks\space\pdf@type\space pdfmark%
11824 ]%
11825 \else
11826 \ltx@ifundefined{@\pdf@linktype color}{%
11827 \Hy@colorlink\@linkcolor
11828 }{%
11829 \expandafter\Hy@colorlink
11830 \csname @\pdf@linktype color\endcsname
11831 }%
11832 \pdf@rect{#1}%
11833 \literalps@out{%
11834 [\the\pdf@toks\space\pdf@type\space pdfmark%
11835 ]%
11836 \Hy@endcolorlink
11837 \fi
11838 \fi
11839 \fi
11840 }

```

The complicated bit is working out the right enclosing rectangle of some piece of  $\text{\TeX}$  text, needed by the `/Rect` key. This solution originates with Toby Thain ([toby@netspace.net.au](mailto:toby@netspace.net.au)).

For the case `breaklinks` is enabled, I have added two hooks, the first one for package `setouterhbox`, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

```

```

11841 \newsavebox{\pdf@box}
11842 \providecommand*{\Hy@setouterhbox}{\sbox}
11843 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11844 \def\Hy@DEST{/DEST}
11845 \def\pdf@rect#1{%
11846 \begingroup
11847 \chardef\x=1 %
11848 \def\Hy@temp{#1}%
11849 \ifx\Hy@temp\ltx@empty
11850 \chardef\x=0 %
11851 \else
11852 \def\y{\anchor@spot}%
11853 \ifx\Hy@temp\y
11854 \def\y{\relax}%
11855 \ifx\anchor@spot\y
11856 \chardef\x=0 %
11857 \fi
11858 \fi
11859 \fi

```

```

11860 \expandafter\endgroup
11861 \ifcase\x
11862   \literalps@out{H.S}%
11863   \literalps@out{H.R}%
11864 \else
11865   \leavevmode
11866   \Hy@SaveSpaceFactor
11867   \ifmmode
11868     \def\Hy@LinkMath{$}%
11869   \else
11870     \let\Hy@LinkMath\ltx@empty
11871   \fi
11872   \ifHy@breaklinks
11873     \Hy@setouterhbox\pdf@box{%
11874       \Hy@RestoreSpaceFactor
11875       \Hy@LinkMath
11876       \Hy@AllowHyphens#1\Hy@xspace@end
11877       \Hy@LinkMath
11878       \Hy@SaveSpaceFactor
11879     }%
11880   \else
11881     \sbox\pdf@box{%
11882       \Hy@RestoreSpaceFactor
11883       \Hy@LinkMath
11884       #1\Hy@xspace@end
11885       \Hy@LinkMath
11886       \Hy@SaveSpaceFactor
11887     }%
11888   \fi
11889   \dimen@ \ht\pdf@box
11890   \ifdim\dp\pdf@box=\z@
11891     \literalps@out{H.S}%
11892   \else
11893     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11894   \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...).

```

11895   \ifHy@breaklinks
11896     \ifhmode
11897       \Hy@breaklinksunhbox\pdf@box
11898     \else
11899       \box\pdf@box
11900     \fi
11901   \else
11902     \expandafter\box\pdf@box
11903   \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

11904   \ifdim\dimen@=\z@
11905     \literalps@out{H.R}%
11906   \else
11907     \raise\dimen@\hbox{\literalps@out{H.R}}%
11908   \fi

```

```

11909 \Hy@RestoreSpaceFactor
11910 \fi
11911 \ifx\pdf@type\Hy@DEST
11912 \else
11913 \pdf@addtoksx{H.B}%
11914 \fi
11915 }

```

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.

```

11916 \newtoks\pdf@toks
11917 \newtoks\pdf@defaulttoks
11918 \pdf@defaulttoks={}
11919 \def\pdf@addtoks#1#2{%
11920 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11921 \@processme
11922 }
11923 \def\pdf@addtoksx#1{%
11924 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11925 \@processme
11926 }
11927 \def\PDFdefaults#1{%
11928 \pdf@defaulttoks={#1}%
11929 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11930 % what is the type of pdfmark?
11931 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11932 % what is the link type?
11933 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11934 \def\pdf@linktype{link}
11935 % parameter is a stream of PDF
11936 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11937 % parameter is a name
11938 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11939 % parameter is a array
11940 \define@key{PDF}{Border}{%
11941 \edef\Hy@temp{#1}%
11942 \ifx\Hy@temp\@empty
11943 \else
11944 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11945 \fi
11946 }
11947 \let\Hy@BorderArrayPatch\@empty
11948 % parameter is a dictionary
11949 \define@key{PDF}{BorderStyle}{%
11950 \edef\Hy@temp{#1}%
11951 \ifx\Hy@temp\@empty
11952 \else
11953 \pdf@addtoks{<<#1>>}{BS}%
11954 \fi
11955 }
11956 % parameter is a array
11957 \define@key{PDF}{Color}{%
11958 \ifx\relax#1\relax
11959 \else
11960 \pdf@addtoks{[#1]}{Color}% hash-ok

```

```

11961 \fi
11962 }
11963 % parameter is a string
11964 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11965 % parameter is a integer
11966 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11967 % parameter is a array
11968 \define@key{PDF}{CropBox}{\pdf@addtoks{#1}{CropBox}}% hash-ok
11969 % parameter is a string
11970 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11971 % parameter is a string or file
11972 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11973 % parameter is a destination
11974 \define@key{PDF}{Dest}{%
11975   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11976   \ifx\Hy@pstringDest\@empty
11977     \Hy@pdfmarkerrortrue
11978     \Hy@Warning{Destination with empty name ignored}%
11979   \else
11980     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11981   \fi
11982 }
11983 \define@key{PDF}{DestAnchor}{%
11984   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11985   \ifx\Hy@pstringDest\@empty
11986     \Hy@pdfmarkerrortrue
11987     \Hy@Warning{Destination with empty name ignored}%
11988   \else
11989     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11990   \fi
11991 }
11992 % parameter is a string
11993 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11994 % parameter is a string
11995 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11996 % parameter is a int
11997 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11998 \define@key{PDF}{PDFAFlags}{%
11999   \ifHy@pdfa
12000     \pdf@addtoks{#1}{F}%
12001   \fi
12002 }
12003 % parameter is a name
12004 \define@key{PDF}{AcroHighlight}{%
12005   \begingroup
12006     \edef\x{#1}%
12007     \expandafter\endgroup\ifx\x\@empty
12008     \else
12009       \pdf@addtoks{#1}{H}%
12010     \fi
12011 }
12012 % parameter is a string
12013 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
12014 % parameter is a string
12015 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
12016 % parameter is a string
12017 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}

```

```

12018 % parameter is a string
12019 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
12020 % parameter is a Boolean
12021 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
12022 % parameter is a integer or name
12023 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
12024 % parameter is a name
12025 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
12026 % parameter is a string
12027 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
12028 % parameter is a array
12029 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
12030 % parameter is a integer
12031 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
12032 % parameter is a name
12033 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
12034 % parameter is a string
12035 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
12036 % parameter is a string
12037 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
12038 % parameter is a string
12039 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
12040 % parameter is an array
12041 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
12042 % parameter is a string
12043 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

These are the keys used in the DOCINFO section.
12044 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
12045 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
12046 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
12047 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
12048 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
12049 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
12050 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
12051 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
12052 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
12053 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
12054 \define@key{PDF}{Trapped}{%
12055   \edef\Hy@temp{#1}%
12056   \ifx\Hy@temp\@empty
12057   \else
12058     \pdf@addtoks{/#1}{Trapped}%
12059   \fi
12060 }
12061
12062 </pdfmarkbase>
12063 <*pdfmark>
12064 \def\Acrobatmenu#1#2{%
12065   \EdefEscapeName\Hy@temp@menu{#1}%
12066   \Hy@Acrobatmenu{#1}{#2}{%
12067     \pdfmark[#2]}{%
12068     linktype=menu,%
12069     pdfmark=/ANN,%
12070     AcroHighlight=\@pdfhighlight,%
12071     Border=\@pdfborder,%
12072     BorderStyle=\@pdfborderstyle,%
12073     Color=\@menubordercolor,%

```

```

12074     Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
12075     Subtype=/Link,%
12076     PDFAFlags=4%
12077   }%
12078 }%
12079 }

```

And now for some useful examples:

```

12080 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}%
12081 \def\PDFNextPage@[#1]#2{%
12082   \pdfmark[{#2}]{%
12083     #1,%
12084     Border=\@pdfborder,%
12085     BorderStyle=\@pdfborderstyle,%
12086     Color=.2 .1 .5,%
12087     pdfmark=/ANN,%
12088     Subtype=/Link,%
12089     PDFAFlags=4,%
12090     Page=/Next%
12091   }%
12092 }
12093 \def\PDFPreviousPage{%
12094   \@ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
12095 }
12096 \def\PDFPreviousPage@[#1]#2{%
12097   \pdfmark[{#2}]{%
12098     #1,%
12099     Border=\@pdfborder,%
12100     BorderStyle=\@pdfborderstyle,%
12101     Color=.4 .4 .1,%
12102     pdfmark=/ANN,%
12103     Subtype=/Link,%
12104     PDFAFlags=4,%
12105     Page=/Prev%
12106   }%
12107 }
12108 \def\PDFOpen#1{%
12109   \pdfmark{#1,pdfmark=/DOCVIEW}%
12110 }

```

This will only work if you use Distiller 2.1 or higher.

```

12111 \def\hyper@linkurl#1#2{%
12112   \begingroup
12113   \Hy@pstringdef\Hy@pstringURI{#2}%
12114   \hyper@chars
12115   \leavevmode
12116   \pdfmark[{#1}]{%
12117     pdfmark=/ANN,%
12118     linktype=url,%
12119     AcroHighlight=\@pdfhighlight,%
12120     Border=\@pdfborder,%
12121     BorderStyle=\@pdfborderstyle,%
12122     Color=\@urlbordercolor,%
12123     Action={<<%
12124       /Subtype/URI%
12125       /URI(\Hy@pstringURI)%
12126       \ifHy@href@ismap
12127         /IsMap true%

```

```

12128     \fi
12129     >>},%
12130     Subtype=/Link,%
12131     PDFAFlags=4%
12132 }%
12133 \endgroup
12134 }
12135 \def\hyper@linkfile#1#2#3{%
12136 \begingroup
12137 \def\Hy@pstringF{#2}%
12138 \Hy@CleanupFile\Hy@pstringF
12139 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
12140 \Hy@pstringdef\Hy@pstringD{#3}%
12141 \Hy@MakeRemoteAction
12142 \leavevmode
12143 \pdfmark[{#1}]{%
12144 pdfmark=/ANN,%
12145 Subtype=/Link,%
12146 PDFAFlags=4,%
12147 AcroHighlight=\@pdfhighlight,%
12148 Border=\@pdfborder,%
12149 BorderStyle=\@pdfborderstyle,%
12150 linktype=file,%
12151 Color=\@filebordercolor,%
12152 Action={%
12153 <<%
12154 /S/GoToR%
12155 \Hy@SetNewWindow
12156 /F(\Hy@pstringF)%
12157 /D%
12158 \ifx\#3\%
12159 [\Hy@href@page\@pdfremotestartview]%
12160 \else
12161 (\Hy@pstringD)cvn%
12162 \fi
12163 \Hy@href@nextactionraw
12164 >>%
12165 }%
12166 }%
12167 \endgroup
12168 }
12169 \def\@hyper@launch run:#1\#2#3{%
12170 \begingroup
12171 \Hy@pstringdef\Hy@pstringF{#1}%
12172 \Hy@pstringdef\Hy@pstringP{#3}%
12173 \leavevmode
12174 \pdfmark[{#2}]{%
12175 pdfmark=/ANN,%
12176 Subtype=/Link,%
12177 PDFAFlags=4,%
12178 AcroHighlight=\@pdfhighlight,%
12179 Border=\@pdfborder,%
12180 BorderStyle=\@pdfborderstyle,%
12181 linktype=run,%
12182 Color=\@runbordercolor,%
12183 Action={%
12184 <<%

```



```

12185      /S/Launch%
12186      \Hy@SetNewWindow
12187      /F(\Hy@pstringF)%
12188      \ifx\|#3\|%
12189      \else
12190      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
12191      \fi
12192      \Hy@href@nextactionraw
12193      >>%
12194      }%
12195      }%
12196      \endgroup
12197      }
12198      </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.

```

12199 <*dvips>
12200 \providecommand*\XR@ext>{pdf}
12201 \let\Hy@raisedlink\ltx@empty
12202 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
12203 \def\headerps@out#1{\special{! #1}}%
12204 \input{pdfmark.def}%
12205 \ifx\@pdfproducer\relax
12206   \def\@pdfproducer{dvips + Distiller}%
12207 \fi
12208 \providecommand*\@pdfborder{0 0 1}
12209 \providecommand*\@pdfborderstyle{}
12210 \providecommand*\@pdfview{XYZ}
12211 \providecommand*\@pdfviewparams{ H.V}
12212 \def\Hy@BorderArrayPatch{BorderArrayPatch}
12213 \g@addto@macro\Hy@FirstPageHook{%
12214   \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.

```

12215 /DvipsToPDF{72.27 mul Resolution div} def%
12216 /PDFToDvips{72.27 div Resolution mul} def%
12217 /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.

```

12218 /BorderArrayPatch{%
12219   [exch{%
12220     dup dup type/integertype eq exch type/realttype eq or%
12221     {BPToDvips}if%
12222   }forall]%
12223 }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.

```

12224 /HyperBorder {1 PDFToDvips} def%
12225 /H.V {pdf@hoff pdf@voff null} def%
12226 /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

```

12227 /H.S {%
12228   currentpoint %
12229   HyperBorder add /pdf@lly exch def %
12230   dup DvipsToPDF 72 add /pdf@hoff exch def %
12231   HyperBorder sub /pdf@llx exch def%
12232 } def%
```

The calculation of upper left  $y$  is done without raising the point in `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`

```

12233 /H.L {%
12234   2 sub dup%
12235   /HyperBasePt exch def %
12236   PDFToDvips /HyperBaseDvips exch def %
12237   currentpoint %
12238   HyperBaseDvips sub /pdf@ury exch def%
12239   /pdf@urx exch def%
12240 } def%
12241 /H.A {%
12242   H.L %
12243 % |pdf@voff| = the distance from the top of the page to a point
12244 % |\baselineskip| above the current point in PDF coordinates
12245   currentpoint exch pop %
12246   vsize 72 sub exch DvipsToPDF %
12247   HyperBasePt sub % baseline skip
12248   sub /pdf@voff exch def%
12249 } def%
12250 /H.R {%
12251   currentpoint %
12252   HyperBorder sub /pdf@ury exch def %
12253   HyperBorder add /pdf@urx exch def %
12254 % |pdf@voff| = the distance from the top of the page to the current point, in
12255 % PDF coordinates
12256   currentpoint exch pop vsize 72 sub %
12257   exch DvipsToPDF sub /pdf@voff exch def%
12258 } def%
```

```

12259 }%
12260 }
12261 \AtBeginShipoutFirst{%
12262   \ifHy@setpagesize
12263     \begingroup
12264       \@ifundefined{stockwidth}{%
12265         \ifdim\paperwidth>\z@
12266           \ifdim\paperheight>\z@
12267             \special{papersize=\the\paperwidth,\the\paperheight}%
12268           \fi
12269         \fi
12270       }{%
12271         \ifdim\stockwidth>\z@
12272           \ifdim\stockheight>\z@
12273             \special{papersize=\the\stockwidth,\the\stockheight}%
12274           \fi
12275         \fi
12276       }%
12277     \endgroup
12278   \fi
12279   \Hy@DisableOption{setpagesize}%
12280 }
12281 </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.

```

12282 (*vtexpdfmark)
12283 \providecommand*\XR@ext}{pdf}
12284 \let\Hy@raisedlink\ltx@empty
12285 \def\literalps@out#1{\special{pS:#1}}%
12286 \def\headerps@out#1{\immediate\special{pS:#1}}%
12287 \input{pdfmark.def}%
12288 \ifx\@pdfproducer\relax
12289   \ifnum\OpMode=\@ne
12290     \def\@pdfproducer{VTeX}%
12291   \else
12292     \def\@pdfproducer{VTeX + Distiller}%
12293   \fi
12294 \fi
12295 \providecommand*\@pdfborder{0 0 1}
12296 \providecommand*\@pdfborderstyle{}
12297 \providecommand*\@pdfview{XYZ}
12298 \providecommand*\@pdfviewparams{ H.V}
12299 \g@addto@macro\Hy@FirstPageHook{%
12300   \headerps@out{%
12301     /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.

```

12302   /HyperBorder {1} def%
12303   /H.V {pdf@hoff pdf@voff null} def%
12304   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

12305 /H.S {%
12306     currentpoint %
12307     HyperBorder sub%
12308     /pdf@lly exch def %
12309     dup 72 add /pdf@hoff exch def %
12310     HyperBorder sub%
12311     /pdf@llx exch def%
12312 } def%
```

The  $x$  and  $y$  coordinates of the current point, minus the `\baselineskip`:  $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

12313 /H.L {%
12314     2 sub%
12315     /HyperBasePt exch def %
12316     currentpoint %
12317     HyperBasePt add HyperBorder add%
12318     /pdf@ury exch def %
12319     HyperBorder add%
12320     /pdf@urx exch def%
12321 } def%
12322 /H.A {%
12323     H.L %
12324     currentpoint exch pop %
12325     vsize 72 sub exch %
12326     HyperBasePt add add%
12327     /pdf@voff exch def%
12328 } def%
```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

12329 /H.R {%
12330     currentpoint %
12331     HyperBorder add%
12332     /pdf@ury exch def %
12333     HyperBorder add%
12334     /pdf@urx exch def %
12335     currentpoint exch pop vsize 72 sub add%
12336     /pdf@voff exch def%
12337 } def%
12338 }%
12339 }
12340 </vtxpdfmark>
```

## 47.11 Textures

```

12341 <*textures>
12342 \providecommand*\XR@ext\{pdf}
```

At the suggestion of Jacques Distler ([distler@golem.ph.utexas.edu](mailto: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](mailto: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.

```

12343 \begingroup
12344 \obeylines %
12345 \gdef\Hy@ps@CR{\noexpand
12346 }%
12347 \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`.

```

12348 \def\literalps@out#1{%
12349 \special{postscript 0 0 transform}%
12350 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
12351 }%
12352 %

```

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.

```

12353 \def\headerps@out#1{%
12354 \special{%
12355 prepostscript TeXdict begin\Hy@ps@CR
12356 #1\Hy@ps@CR
12357 end%
12358 }%
12359 }%
12360 %

```

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.

```

12361 \g@addto@macro\Hy@FirstPageHook{%
12362 \headerps@out{%
12363 /betterpdfmark {%
12364 systemdict begin %
12365 dup /BP eq%
12366 {cleartomark gsave nulldevice []%
12367 {dup /EP eq%
12368 {cleartomark cleartomark grestore}%
12369 {cleartomark}%
12370 ifelse%
12371 }ifelse %
12372 end%
12373 }def\Hy@ps@CR
12374 ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
12375 }% end of \headerps@out
12376 }% end of \AtBeginShipoutFirst
12377 %
12378 \input{pdfmark.def}%

```

```

12379 %
12380 \ifx\@pdfproducer\relax
12381 \def\@pdfproducer{Textures + Distiller}%
12382 \fi
12383 \providecommand*\@pdfborder{0 0 1}
12384 \providecommand*\@pdfborderstyle{}
12385 \providecommand*\@pdfview{XYZ}
12386 \providecommand*\@pdfviewparams{ H.V}
12387 %

```

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  $\text{\TeX}$ .

```

12388 \Hy@AtBeginDocument{%
12389 \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

12390 /vsize {\Hy@pageheight} def%
12391 /DvipsToPDF {} def%
12392 /PDFToDvips {} def%
12393 /BPToDvips {} def%
12394 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
12395 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
12396 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
12397 /H.S {%
12398 currentpoint %
12399 HyperBorder add /pdf@lly exch def %
12400 dup DvipsToPDF 72 add /pdf@hoff exch def %
12401 HyperBorder sub /pdf@llx exch def%
12402 } def\Hy@ps@CR
12403 /H.L {%
12404 2 sub %
12405 PDFToDvips /HyperBase exch def %
12406 currentpoint %
12407 HyperBase sub /pdf@ury exch def%
12408 /pdf@urx exch def%
12409 } def\Hy@ps@CR
12410 /H.A {%
12411 H.L %
12412 currentpoint exch pop %
12413 vsize 72 sub exch DvipsToPDF %
12414 HyperBase sub % baseline skip
12415 sub /pdf@voff exch def%
12416 } def\Hy@ps@CR
12417 /H.R {%
12418 currentpoint %
12419 HyperBorder sub /pdf@ury exch def %
12420 HyperBorder add /pdf@urx exch def %
12421 currentpoint exch pop vsize 72 sub %
12422 exch DvipsToPDF sub /pdf@voff exch def%
12423 } def\Hy@ps@CR
12424 }%
12425 }
12426 \Hy@AtBeginDocument{%

```

```

12427 \ifHy@colorlinks
12428   \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
12429 \fi
12430 }

```

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.

```

12431 \expandafter\let\expandafter\keepPDF@SetupDoc
12432   \csname PDF@SetupDoc\endcsname
12433 \def\PDF@SetupDoc{%
12434   \ifx\@baseurl\@empty
12435   \else
12436     \special{html:<base href="\@baseurl">}%
12437   \fi
12438   \keepPDF@SetupDoc
12439 }
12440 \Hy@WrapperDef\hyper@anchor#1{%
12441   \Hy@SaveLastskip
12442   \Hy@VerboseAnchor{#1}%
12443   \begingroup
12444     \let\protect=\string
12445     \special{html:<a name=%
12446       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12447   \endgroup
12448   \Hy@activeanchortrue
12449   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12450   \special{html:</a>}%
12451   \Hy@activeanchorfalse
12452   \Hy@RestoreLastskip
12453 }
12454 \Hy@WrapperDef\hyper@anchorstart#1{%
12455   \Hy@SaveLastskip
12456   \Hy@VerboseAnchor{#1}%
12457   \begingroup
12458     \hyper@chars
12459     \special{html:<a name=%
12460       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12461   \endgroup
12462   \Hy@activeanchortrue
12463 }
12464 \def\hyper@anchorend{%
12465   \special{html:</a>}%
12466   \Hy@activeanchorfalse
12467   \Hy@RestoreLastskip
12468 }
12469 \def\@urltype{url}
12470 \def\hyper@linkstart#1#2{%
12471   \Hy@VerboseLinkStart{#1}{#2}%
12472   \expandafter\Hy@colorlink\csname @#1color\endcsname
12473   \def\Hy@tempa{#1}%
12474   \ifx\Hy@tempa\@urltype
12475     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12476   \else
12477     \begingroup
12478       \hyper@chars
12479       \special{%
12480         html:<a href=%

```

```

12481     \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
12482 }%
12483 \endgroup
12484 \fi
12485 }
12486 \def\hyper@linkend{%
12487 \special{html:</a>}}%
12488 \Hy@endcolorlink
12489 }
12490 \def\hyper@linkfile#1#2#3{%
12491 \hyper@linkurl{#1}{%
12492 \Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi
12493 }%
12494 }
12495 \def\hyper@linkurl#1#2{%
12496 \leavevmode
12497 \ifHy@raiselinks
12498 \Hy@SaveSpaceFactor
12499 \Hy@SaveSavedSpaceFactor
12500 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12501 \Hy@RestoreSavedSpaceFactor
12502 \@linkdim\dp\@tempboxa
12503 \lower\@linkdim\hbox{%
12504 \hyper@chars
12505 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
12506 }%
12507 \Hy@colorlink\@urlcolor
12508 \Hy@RestoreSpaceFactor
12509 #1\Hy@xspace@end
12510 \Hy@SaveSpaceFactor
12511 \@linkdim\ht\@tempboxa
12512 \advance\@linkdim by -6.5\p@
12513 \raise\@linkdim\hbox{\special{html:</a>}}}%
12514 \Hy@endcolorlink
12515 \Hy@RestoreSpaceFactor
12516 \else
12517 \begingroup
12518 \hyper@chars
12519 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
12520 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12521 \special{html:</a>}}%
12522 \Hy@endcolorlink
12523 \endgroup
12524 \fi
12525 }

```

Very poor implementation of \hyper@link without considering #1.

```

12526 \def\hyper@link#1#2#3{%
12527 \Hy@VerboseLinkStart{#1}{#2}%
12528 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
12529 }
12530 \def\hyper@image#1#2{%
12531 \begingroup
12532 \hyper@chars
12533 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
12534 \endgroup
12535 }
12536 </textures>

```



## 47.12 dvipsone

```
12537 % \subsection{dvipsone driver}
12538 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12539 % |\special| commands.
12540 (*dvipsone)
12541 \providecommand*\XR@ext}{pdf}
12542 \let\Hy@raisedlink\ltx@empty
12543 \providecommand*\@pdfborder{0 0 1}
12544 \providecommand*\@pdfborderstyle{}
12545 \def\literalps@out#1{\special{ps:#1}}%
12546 \def\headerps@out#1{\special{headertext=#1}}%
12547 \input{pdfmark.def}%
12548 \ifx\@pdfproducer\relax
12549   \def\@pdfproducer{dvipsone + Distiller}%
12550 \fi
12551 \HyInfo@AddonUnsupportedtrue
12552 \def\PDF@FinishDoc{%
12553   \Hy@UseMaketitleInfos
12554   \HyInfo@TrappedUnsupported
12555   \special{PDF: Keywords \@pdfkeywords}%
12556   \special{PDF: Title \@pdftitle}%
12557   \special{PDF: Creator \@pdfcreator}%
12558   \ifx\@pdfcreationdate\@empty
12559   \else
12560     \special{PDF: CreationDate \@pdfcreationdate}%
12561   \fi
12562   \ifx\@pdfmoddate\@empty
12563   \else
12564     \special{PDF: ModDate \@pdfmoddate}%
12565   \fi
12566   \special{PDF: Author \@pdfauthor}%
12567   \ifx\@pdfproducer\relax
12568   \else
12569     \special{PDF: Producer \@pdfproducer}%
12570   \fi
12571   \special{PDF: Subject \@pdfsubject}%
12572   \Hy@DisableOption{pdfauthor}%
12573   \Hy@DisableOption{pdftitle}%
12574   \Hy@DisableOption{pdfsubject}%
12575   \Hy@DisableOption{pdfcreator}%
12576   \Hy@DisableOption{pdfcreationdate}%
12577   \Hy@DisableOption{pdfmoddate}%
12578   \Hy@DisableOption{pdfproducer}%
12579   \Hy@DisableOption{pdfkeywords}%
12580   \Hy@DisableOption{pdftrapped}%
12581   \Hy@DisableOption{pdfinfo}%
12582 }
12583 \def\PDF@SetupDoc{%
12584   \def\Hy@temp{}%
12585   \ifx\@pdfstartpage\@empty
12586   \else
12587     \ifx\@pdfstartview\@empty
12588     \else
12589       \edef\Hy@temp{%
12590         ,Page=\@pdfstartpage
12591         ,View=\@pdfstartview
12592       }%
```

```

12593 \fi
12594 \fi
12595 \edef\Hy@temp{%
12596 \noexpand\pdfmark{%
12597 pdfmark=/DOCVIEW,%
12598 PageMode=/\@pdfpagemode
12599 \Hy@temp
12600 }%
12601 }%
12602 \Hy@temp
12603 \ifx\@pdfpagescrop\@empty
12604 \else
12605 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12606 \fi
12607 \edef\Hy@temp{%
12608 \ifHy@pdftoolbar\else /HideToolbar true\fi
12609 \ifHy@pdfmenubar\else /HideMenubar true\fi
12610 \ifHy@pdfwindowui\else /HideWindowUI true\fi
12611 \ifHy@pdfwindow /FitWindow true\fi
12612 \ifHy@pdfcenterwindow /CenterWindow true\fi
12613 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12614 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12615 \Hy@UseNameKey{Direction}\@pdfdirection
12616 \Hy@UseNameKey{ViewArea}\@pdfviewarea
12617 \Hy@UseNameKey{ViewClip}\@pdfviewclip
12618 \Hy@UseNameKey{PrintArea}\@pdfprintarea
12619 \Hy@UseNameKey{PrintClip}\@pdfprintclip
12620 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12621 \Hy@UseNameKey{Duplex}\@pdfduplex
12622 \ifx\@pdfpicktraybypdfsize\@empty
12623 \else
12624 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12625 \fi
12626 \ifx\@pdfprintpagerange\@empty
12627 \else
12628 /PrintPageRange[\@pdfprintpagerange]%
12629 \fi
12630 \ifx\@pdfnumcopies\@empty
12631 \else
12632 /NumCopies \@pdfnumcopies
12633 \fi
12634 }%
12635 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12636 \pdfmark{%
12637 pdfmark=/PUT,%
12638 Raw={%
12639 \string{Catalog\string}<<%
12640 \ifx\Hy@temp\@empty
12641 \else
12642 /ViewerPreferences<<\Hy@temp>>%
12643 \fi
12644 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12645 \ifx\@pdflang\@empty
12646 \else
12647 /Lang(\@pdflang)%
12648 \fi
12649 \ifx\@baseurl\@empty

```

```

12650     \else
12651     /URI<</Base(\Hy@pstringB)>>%
12652     \fi
12653     >>%
12654     }%
12655     }%
12656 }
12657 \providecommand*\@pdfview{XYZ}
12658 \providecommand*\@pdfviewparams{ %
12659     gsave revscl currentpoint grestore %
12660     72 add exch pop null exch null%
12661 }
12662 \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  $\TeX$ .

```

12663 \g@addto@macro\Hy@FirstPageHook{%
12664     \headerps@out{%
dvipsone lives in scaled points; does this mean 65536 or 65781?
12665     /DvipsToPDF { 65781 div } def%
12666     /PDFToDvips { 65781 mul } def%
12667     /BPToDvips{65781 mul}def%
12668     /HyperBorder { 1 PDFToDvips } def%
12669     /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.

```

12670     /BorderArrayPatch{%
12671         [exch{%
12672             dup dup type/integertype eq exch type/realtype eq or%
12673             {BPToDvips}if%
12674             }forall]%
12675         }def%
12676     /H.S {%
12677         currentpoint %
12678         HyperBorder add /pdf@lly exch def %
12679         dup DvipsToPDF 72 add /pdf@hoff exch def %
12680         HyperBorder sub /pdf@llx exch def%
12681     } def%
12682     /H.L {%
12683         2 sub %
12684         PDFToDvips /HyperBase exch def %
12685         currentpoint %
12686         HyperBase sub /pdf@ury exch def%
12687         /pdf@urx exch def%
12688     } def%
12689     /H.A {%
12690         H.L %
12691         currentpoint exch pop %
12692         HyperBase sub % baseline skip
12693         DvipsToPDF /pdf@voff exch def%
12694     } def%
12695     /H.R {%
12696         currentpoint %

```

```

12697   HyperBorder sub /pdf@ury exch def %
12698   HyperBorder add /pdf@urx exch def %
12699   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12700   } def%
12701 }%
12702 }
12703 </dvipsone>

```

### 47.13 TeX4ht

```

12704 <{*tex4ht}
12705 \providecommand*{\XR@ext}{html}
12706 \let\Hy@raisedlink\ltx@empty
12707 \@ifpackageloaded{tex4ht}{%
12708   \Hy@InfoNoLine{tex4ht is already loaded}%
12709 }{%
12710   \RequirePackage[hTeX4ht]{tex4ht}%
12711 }
12712 \hyperlinkfileprefix{}
12713 \let\PDF@FinishDoc\ltx@empty
12714 \def\PDF@SetupDoc{%
12715   \ifx\@baseurl\@empty
12716   \else
12717     \special{t4ht=<base href="\@baseurl">}%
12718   \fi
12719 }
12720 \Hy@WrapperDef\hyper@anchor#1{%
12721   \Hy@SaveLastskip
12722   \Hy@VerboseAnchor{#1}%
12723   \begingroup
12724     \let\protect=\string
12725     \special{t4ht=<a name=%
12726       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12727   \endgroup
12728   \Hy@activeanchortrue
12729   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12730   \special{t4ht=</a>}%
12731   \Hy@activeanchorfalse
12732   \Hy@RestoreLastskip
12733 }
12734 \Hy@WrapperDef\hyper@anchorstart#1{%
12735   \Hy@SaveLastskip
12736   \Hy@VerboseAnchor{#1}%
12737   \begingroup
12738     \hyper@chars\special{t4ht=<a name=%
12739       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12740   \endgroup
12741   \Hy@activeanchortrue
12742 }
12743 \def\hyper@anchorend{%
12744   \special{t4ht=</a>}%
12745   \Hy@activeanchorfalse
12746   \Hy@RestoreLastskip
12747 }
12748 \def\@urltype{url}
12749 \def\hyper@linkstart#1#2{%
12750   \Hy@VerboseLinkStart{#1}{#2}%
12751   \expandafter\Hy@colorlink\csname @#1color\endcsname

```

```

12752 \def\Hy@tempa{#1}%
12753 \ifx\Hy@tempa\@urlltype
12754   \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12755 \else
12756   \begingroup
12757     \hyper@chars
12758     \special{t4ht=<a href=%
12759       \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12760   \endgroup
12761 \fi
12762 }
12763 \def\hyper@linkend{%
12764   \special{t4ht=</a>}%
12765   \Hy@endcolorlink
12766 }
12767 \def\hyper@linkfile#1#2#3{%
12768   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12769 }
12770 \def\hyper@linkurl#1#2{%
12771   \leavevmode
12772   \ifHy@raiselinks
12773     \Hy@SaveSpaceFactor
12774     \Hy@SaveSavedSpaceFactor
12775     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12776     \Hy@RestoreSavedSpaceFactor
12777     \@linkdim\dp\@tempboxa
12778     \lower\@linkdim\hbox{%
12779       \begingroup
12780         \hyper@chars
12781         \special{%
12782           t4ht=<a href=\hyper@quote#2\hyper@quote>%
12783         }%
12784       \endgroup
12785     }%
12786     \Hy@colorlink\@urlcolor
12787     \Hy@RestoreSpaceFactor
12788     #1\Hy@xspace@end
12789     \Hy@SaveSpaceFactor
12790     \Hy@endcolorlink
12791     \@linkdim\ht\@tempboxa
12792     \advance\@linkdim by -6.5\p@
12793     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12794     \Hy@RestoreSpaceFactor
12795   \else
12796     \begingroup
12797       \hyper@chars
12798       \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12799       \Hy@colorlink\@urlcolor
12800       #1\Hy@xspace@end
12801       \Hy@endcolorlink
12802       \special{t4ht=</a>}%
12803     \endgroup
12804 \fi
12805 }

```

Poor implementation of \hyper@link without considering #1.

```

12806 \def\hyper@link#1#2#3{%
12807   \Hy@VerboseLinkStart{#1}{#2}%

```

```

12808 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12809 }
12810 \def\hyper@image#1#2{%
12811 \begingroup
12812 \hyper@chars
12813 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12814 \endgroup
12815 }
12816 \let\autoref\ref
12817 \ifx \rEFLiNK \UnDef
12818 \def\rEFLiNK #1#2{#2}%
12819 \fi
12820 \let\backref\ltx@gobble

Fix for tex4ht.
12821 \AtBeginDocument{%
12822 \expandafter
12823 \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12824 \expandafter\def\csname Make:Label\endcsname#1#2{%
12825 \ifhmode
12826 \Hy@SaveSpaceFactor
12827 \else
12828 \global\Hy@SavedSpaceFactor=1000 %
12829 \fi
12830 \Hy@OrgMakeLabel{#1}{%
12831 \Hy@RestoreSpaceFactor
12832 #2\Hy@xspace@end%
12833 \Hy@SaveSpaceFactor
12834 }%
12835 \Hy@RestoreSpaceFactor
12836 }%
12837 }
12838 </tex4ht>
12839 <*\tex4htcfg>
12840 \IfFileExists{\jobname.cfg}{\endinput}{\}
12841 \Preamble{html}
12842 \begin{document}%
12843 \EndPreamble
12844 \def\TeX{TeX}
12845 \def\OMEGA{Omega}
12846 \def\LaTeX{LaTeX}
12847 \def\LaTeXe{\LaTeX2e}
12848 \def\eTeX{e-TeX}
12849 \def\MF{Metafont}
12850 \def\MP{MetaPost}
12851 </tex4htcfg>

```

## 48 Driver-specific form support

### 48.1 pdfmarks

```

12852 <*\pdfmark>
12853 \long\def\@Form[#1]{%
12854 \g@addto@macro\Hy@FirstPageHook{%
12855 \headerps@out{%
12856 [%
12857 /_objdef{pdfDocEncoding}%
12858 /type/dict%

```

12859 /OBJ pdfmark%  
12860 [%  
12861 {pdfDocEncoding}%  
12862 <<%  
12863 /Type/Encoding%  
12864 /Differences[%  
12865 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%  
12866 /tilde %  
12867 39/quotesingle %  
12868 96/grave %  
12869 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%  
12870 /fraction/guilsinglleft/guilsinglright/minus/perthousand%  
12871 /quotedblbase/quotedblleft/quotedblright/quoteleft%  
12872 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%  
12873 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %  
12874 164/currency %  
12875 166/brokenbar %  
12876 168/dieresis/copyright/ordfeminine %  
12877 172/logicalnot/.notdef/registered/macron/degree/plusminus%  
12878 /twosuperior/threesuperior/acute/mu %  
12879 183/periodcentered/cedilla/onesuperior/ordmasculine %  
12880 188/onequarter/onehalf/threequarters %  
12881 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%  
12882 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%  
12883 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%  
12884 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%  
12885 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%  
12886 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%  
12887 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%  
12888 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%  
12889 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%  
12890 /ucircumflex/udieresis/yacute/thorn/ydieresis%  
12891 ]%  
12892 >>%  
12893 /PUT pdfmark%  
12894 [%  
12895 /\_objdef{ZaDb}%  
12896 /type/dict%  
12897 /OBJ pdfmark%  
12898 [%  
12899 {ZaDb}%  
12900 <<%  
12901 /Type/Font%  
12902 /Subtype/Type1%  
12903 /Name/ZaDb%  
12904 /BaseFont/ZapfDingbats%  
12905 >>%  
12906 /PUT pdfmark%  
12907 [%  
12908 /\_objdef{Helv}%  
12909 /type/dict%  
12910 /OBJ pdfmark%  
12911 [%  
12912 {Helv}%  
12913 <<%  
12914 /Type/Font%  
12915 /Subtype/Type1%

```

12916 /Name/Helv%
12917 /BaseFont/Helvetica%
12918 /Encoding{pdfDocEncoding}%
12919 >>%
12920 /PUT pdfmark%
12921 [%
12922 /__objdef{aform}%
12923 /type/dict%
12924 /OBJ pdfmark%
12925 [%
12926 /__objdef{afields}%
12927 /type/array%
12928 /OBJ pdfmark%
12929 {%
12930 [%
12931 /BBox[0 0 100 100]%
12932 /__objdef{Check}%
12933 /BP pdfmark %
12934 1 0 0 setrgbcolor%
12935 /ZapfDingbats 80 selectfont %
12936 20 20 moveto%
12937 (4)show%
12938 [/EP pdfmark%
12939 [%
12940 /BBox[0 0 100 100]%
12941 /__objdef{Cross}%
12942 /BP pdfmark %
12943 1 0 0 setrgbcolor%
12944 /ZapfDingbats 80 selectfont %
12945 20 20 moveto%
12946 (8)show%
12947 [/EP pdfmark%
12948 [%
12949 /BBox[0 0 250 100]%
12950 /__objdef{Submit}%
12951 /BP pdfmark %
12952 0.6 setgray %
12953 0 0 250 100 rectfill %
12954 1 setgray %
12955 2 2 moveto %
12956 2 98 lineto %
12957 248 98 lineto %
12958 246 96 lineto %
12959 4 96 lineto %
12960 4 4 lineto %
12961 fill %
12962 0.34 setgray %
12963 248 98 moveto %
12964 248 2 lineto %
12965 2 2 lineto %
12966 4 4 lineto %
12967 246 4 lineto %
12968 246 96 lineto %
12969 fill%
12970 /Helvetica 76 selectfont %
12971 0 setgray %
12972 8 22.5 moveto%

```



```

12973 (Submit)show%
12974 [/EP pdfmark%
12975 [%
12976   /BBox[0 0 250 100]%
12977   /_objdef{SubmitP}%
12978 /BP pdfmark %
12979 0.6 setgray %
12980 0 0 250 100 rectfill %
12981 0.34 setgray %
12982 2 2 moveto %
12983 2 98 lineto %
12984 248 98 lineto %
12985 246 96 lineto %
12986 4 96 lineto %
12987 4 4 lineto %
12988 fill %
12989 1 setgray %
12990 248 98 moveto %
12991 248 2 lineto %
12992 2 2 lineto %
12993 4 4 lineto %
12994 246 4 lineto %
12995 246 96 lineto %
12996 fill%
12997 /Helvetica 76 selectfont %
12998 0 setgray %
12999 10 20.5 moveto%
13000 (Submit)show%
13001 [/EP pdfmark%
13002 } ?pdfmark%
13003 [%
13004 {aform}%
13005 <<%
13006 /Fields{afields}%
13007 /DR<<%
13008 /Font<<%
13009 /ZaDb{ZaDb}%
13010 /Helv{Helv}%
13011 >>%
13012 >>%
13013 /DA(/Helv 10 Tf 0 g)%
13014 /CO{corder}%
13015 \ifHy@pdfa
13016 \else
13017   \ifHyField@NeedAppearances
13018     /NeedAppearances true%
13019   \fi
13020 \fi
13021 >>%
13022 /PUT pdfmark%
13023 [%
13024 {Catalog}%
13025 <<%
13026 /AcroForm{aform}%
13027 >>%
13028 /PUT pdfmark%
13029 [%

```

```

13030 /_objdef{corder}%
13031 /type/array%
13032 /OBJ pdfmark% dps
13033 }}%
13034 \kvsetkeys{Form}{#1}%
13035 }
13036 \let\@endForm\ltx@empty
13037 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13038 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
13039 }
13040 \edef\Fld@pageobjref{/P/string{ThisPage\string}}
13041 \def\@TextField[#1]#2{% parameters, label
13042 \def\Fld@name{#2}%
13043 \let\Fld@default\ltx@empty
13044 \let\Fld@value\@empty
13045 \def\Fld@width{\DefaultWidthofText}%
13046 \def\Fld@height{%
13047 \ifFld@multiline
13048 \DefaultHeightofTextMultiline
13049 \else
13050 \DefaultHeightofText
13051 \fi
13052 }%
13053 \begingroup
13054 \expandafter\HyField@SetKeys\expandafter{%
13055 \DefaultOptionsofText,#1%
13056 }%
13057 \HyField@FlagsText
13058 \ifFld@hidden\def\Fld@width{1sp}\fi
13059 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13060 \LayoutTextField{#2}{%
13061 \leavevmode
13062 \Hy@escapeform\PDFForm@Text
13063 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
13064 pdfmark=/ANN,Raw={\PDFForm@Text}%
13065 }%
13066 }%
13067 \endgroup
13068 }
13069 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13070 \def\Fld@name{#2}%
13071 \let\Fld@default\relax
13072 \let\Fld@value\relax
13073 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13074 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13075 \begingroup
13076 \Fld@menulength=0 %
13077 \@tempdima\z@
13078 \@for\@curropt:=#3\do{%
13079 \expandafter\Fld@checkequals\@curropt==\%
13080 \Hy@StepCount\Fld@menulength
13081 \settowidth{\@tempdimb}{\@currDisplay}%
13082 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13083 }%
13084 \advance\@tempdima by 15\p@
13085 \begingroup
13086 \HyField@SetKeys{#1}%

```

```

13087 \edef\x{\endgroup
13088 \noexpand\expandafter
13089 \noexpand\HyField@SetKeys
13090 \noexpand\expandafter{%
13091 \expandafter\noexpand\csname DefaultOptionsof%
13092 \ifFld@radio
13093 Radio%
13094 \else
13095 \ifFld@combo
13096 \ifFld@popdown
13097 PopdownBox%
13098 \else
13099 ComboBox%
13100 \fi
13101 \else
13102 ListBox%
13103 \fi
13104 \fi
13105 \endcsname
13106 }%
13107 }\x
13108 \HyField@SetKeys{#1}%
13109 \ifFld@hidden\def\Fld@width{1sp}\fi
13110 \ifx\Fld@value\relax
13111 \let\Fld@value\Fld@default
13112 \fi
13113 \LayoutChoiceField{#2}{%
13114 \ifFld@radio
13115 \HyField@FlagsRadioButton
13116 \@@Radio{#3}%
13117 \else
13118 \begingroup
13119 \HyField@FlagsChoice
13120 \ifdim\Fld@width<\@tempdima
13121 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13122 \edef\Fld@width{\the\@tempdima}%
13123 \fi
13124 \ifFld@combo
13125 \else
13126 \@tempdima=\the\Fld@menulength\Fld@charsize
13127 \advance\@tempdima by \Fld@borderwidth bp %
13128 \advance\@tempdima by \Fld@borderwidth bp %
13129 \edef\Fld@height{\the\@tempdima}%
13130 \fi
13131 \@@ListBox{#3}%
13132 \endgroup
13133 \fi
13134 }%
13135 \endgroup
13136 }
13137 \def\@@Radio#1{%
13138 \Fld@listcount=0 %
13139 \EdefEscapeName\Fld@default{\Fld@default}%
13140 \@for\@curropt:=#1\do{%
13141 \expandafter\Fld@checkequals\@curropt==\%
13142 \EdefEscapeName\@currValue{\@currValue}%
13143 \Hy@StepCount\Fld@listcount

```

```

13144 \currDisplay\space
13145 \Hy@escapeform\PDFForm@Radio
13146 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
13147 pdfmark=/ANN,%
13148 Raw={%
13149 \PDFForm@Radio /AP <</N <</\currValue\space {Check}>> >>%
13150 }%
13151 } % deliberate space between radio buttons
13152 }%
13153 }
13154 \newcount\Fld@listcount
13155 \def\@@Listbox#1{%
13156 \HyField@PDFChoices{#1}%
13157 \Hy@escapeform\PDFForm@List
13158 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
13159 pdfmark=/ANN,Raw={\PDFForm@List}%
13160 }%
13161 }
13162 \def\@PushButton[#1]#2{% parameters, label
13163 \def\Fld@name{#2}%
13164 \begingroup
13165 \expandafter\HyField@SetKeys\expandafter{%
13166 \DefaultOptionsofPushButton,#1%
13167 }%
13168 \ifHy@pdfa
13169 \Hy@Error{%
13170 PDF/A: Push button with JavaScript is prohibited%
13171 } \@ehc
13172 \LayoutPushButtonField{%
13173 \leavevmode
13174 \MakeButtonField{#2}%
13175 }%
13176 \else
13177 \HyField@FlagsPushButton
13178 \ifFld@hidden\def\Fld@width{1sp}\fi
13179 \LayoutPushButtonField{%
13180 \leavevmode
13181 \Hy@escapeform\PDFForm@Push
13182 \pdfmark[\MakeButtonField{#2}]{%
13183 pdfmark=/ANN,Raw={\PDFForm@Push}%
13184 }%
13185 }%
13186 \fi
13187 \endgroup
13188 }
13189 \def\@Submit[#1]#2{%
13190 \def\Fld@width{\DefaultWidthofSubmit}%
13191 \def\Fld@height{\DefaultHeightofSubmit}%
13192 \begingroup
13193 \expandafter\HyField@SetKeys\expandafter{%
13194 \DefaultOptionsofSubmit,#1%
13195 }%
13196 \HyField@FlagsPushButton
13197 \HyField@FlagsSubmit
13198 \ifFld@hidden\def\Fld@width{1sp}\fi
13199 \Hy@escapeform\PDFForm@Submit
13200 \pdfmark[\MakeButtonField{#2}]{%

```

```

13201 pdfmark=/ANN,%
13202 Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
13203 }%
13204 \endgroup
13205 }
13206 \def\@Reset[#1]#2{%
13207 \def\Fld@width{\DefaultWidthofReset}%
13208 \def\Fld@height{\DefaultHeightofReset}%
13209 \begingroup
13210 \expandafter\HyField@SetKeys\expandafter{%
13211 \DefaultOptionsofReset,#1%
13212 }%
13213 \leavevmode
13214 \ifHy@pdfa
13215 \Hy@Error{%
13216 PDF/A: Reset action is prohibited%
13217 } \@ehc
13218 \MakeButtonField{#2}%
13219 \else
13220 \HyField@FlagsPushButton
13221 \ifFld@hidden\def\Fld@width{1sp}\fi
13222 \Hy@escapeform\PDFForm@Reset
13223 \pdfmark[\MakeButtonField{#2}]{%
13224 pdfmark=/ANN,Raw={\PDFForm@Reset}%
13225 }%
13226 \fi
13227 \endgroup
13228 }%
13229 \def\@CheckBox[#1]#2{% parameters, label
13230 \def\Fld@name{#2}%
13231 \def\Fld@default{0}%
13232 \begingroup
13233 \def\Fld@width{\DefaultWidthofCheckBox}%
13234 \def\Fld@height{\DefaultHeightofCheckBox}%
13235 \expandafter\HyField@SetKeys\expandafter{%
13236 \DefaultOptionsofCheckBox,#1%
13237 }%
13238 \HyField@FlagsCheckBox
13239 \ifFld@hidden\def\Fld@width{1sp}\fi
13240 \LayoutCheckField{#2}{%
13241 \leavevmode
13242 \Hy@escapeform\PDFForm@Check
13243 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
13244 pdfmark=/ANN,Raw={\PDFForm@Check}%
13245 }%
13246 }%
13247 \endgroup
13248 }
13249 \pdfmark>

```

## 48.2 HyperTeX

```

13250 \*hypertex>
13251 \def\@Form[#1]{%
13252 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13253 }
13254 \let\@endForm\tx@empty
13255 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum

```

```

13256 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
13257 }
13258 \def\@TextField[#1]#2{% parameters, label
13259 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
13260 }
13261 \def\@CheckBox[#1]#2{% parameters, label
13262 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
13263 }
13264 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13265 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
13266 }
13267 \def\@PushButton[#1]#2{% parameters, label
13268 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
13269 }
13270 \def\@Reset[#1]#2{%
13271 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13272 }
13273 \def\@Submit[#1]#2{%
13274 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13275 }
13276 \</hypertex>

```

### 48.3 TeX4ht

```

13277 (*tex4ht)
13278 \def\@Form[#1]{%
13279 \kvsetkeys{Form}{#1}%
13280 \HCode{<form action="\Form@action" method="\Form@method">}%
13281 }
13282 \def\@endForm{\HCode{</form>}}
13283 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13284 \Hy@Message{Sorry, TeX4ht does not support gauges}%
13285 }
13286 \def\@TextField[#1]#2{% parameters, label
13287 \let\Hy@reserved@a\@empty
13288 \def\Fld@name{#2}%
13289 \let\Fld@default\ltx@empty
13290 \bgroup
13291 \Field@toks={ }%
13292 \kvsetkeys{Field}{#1}%
13293 \HCode{<label for="\Fld@name">#2</label>}%
13294 \ifFld@password
13295 \@@PasswordField
13296 \else
13297 \@@TextField
13298 \fi
13299 \egroup
13300 }
13301 \def\@@PasswordField{%
13302 \HCode{%
13303 <input type="password" %
13304 id="\Fld@name" %
13305 name="\Fld@name" %
13306 \ifFld@hidden type="hidden" \fi
13307 value="\Fld@default" %
13308 \the\Field@toks
13309 >%
13310 }%

```

```

13311 }
13312 \def\@@TextField{%
13313   \ifFld@multiline
13314     \HCode{<textarea %
13315       \ifFld@readonly readonly \fi
13316       id="\Fld@name" %
13317       name="\Fld@name" %
13318       \ifFld@hidden type="hidden" \fi
13319       \the\Field@toks>%
13320   }%
13321   \Fld@default
13322   \HCode{</textarea>}%
13323 \else
13324   \HCode{<input type="text" %
13325     \ifFld@readonly readonly \fi
13326     id="\Fld@name" %
13327     name="\Fld@name" %
13328     \ifFld@hidden type="hidden" \fi
13329     value="\Fld@default" %
13330     \the\Field@toks>%
13331   }%
13332 \fi
13333 }
13334 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13335   \def\Fld@name{#2}%
13336   \let\Fld@default\tx@empty
13337   \let\Hy@reserved@a\relax
13338   \begingroup
13339     \expandafter\Fld@findlength#3\\%
13340     \Field@toks={ }%
13341     \kvsetkeys{Field}{#1}%
13342     #2%
13343     \ifFld@radio
13344       \expandafter\@@Radio#3\\%
13345     \else
13346       \expandafter\@@Menu#3\\%
13347     \fi
13348   \endgroup
13349 }
13350 \def\Fld@findlength#1\\{%
13351   \Fld@menulength=0 %
13352   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
13353 }
13354 \def\@@Menu#1\\{%
13355   \HCode{<select size="\the\Fld@menulength" %
13356     name="\Fld@name" %
13357     \the\Field@toks>%
13358   }%
13359   \@for\@curropt:=#1\do{%
13360     \expandafter\Fld@checkequals\@curropt==\\%
13361     \HCode{<option %
13362       \ifx\@curropt\Fld@default selected \fi
13363       value="\@currValue">\@currDisplay</option>%
13364     }%
13365   }%
13366   \HCode{</select>}%
13367 }

```

```

13368 \def\@@Radio#1\{\%
13369   \@for\@curropt:=#1\do{\%
13370     \expandafter\Fld@checkequals\@curropt==\%
13371     \HCode{<input type="radio" \%
13372       \ifx\@curropt\Fld@default checked \fi
13373       name="\Fld@name" \%
13374       value="\@currValue" \%
13375       \the\Field@toks>\%
13376     }%
13377     \@currDisplay
13378   }%
13379 }
13380 \def\@PushButton[#1]#2{\% parameters, label
13381   \def\Fld@name{#2}%
13382   \bgroup
13383     \Field@toks={ }%
13384     \kvsetkeys{Field}{#1}%
13385     \HCode{<input type="button" \%
13386       name="\Fld@name" \%
13387       value="#2" \%
13388       \the\Field@toks>%
13389     }%
13390     \HCode{</button>}%
13391   \egroup
13392 }
13393 \def\@Submit[#1]#2{\%
13394   \HCode{<button type="submit">#2</button>}%
13395 }
13396 \def\@Reset[#1]#2{\%
13397   \HCode{<button type="reset">#2</button>}%
13398 }
13399 \def\@CheckBox[#1]#2{\% parameters, label
13400   \let\Hy@reserved@a\@empty
13401   \def\Fld@name{#2}%
13402   \def\Fld@default{0}%
13403   \bgroup
13404     \Field@toks={ }%
13405     \kvsetkeys{Field}{#1}%
13406     \HCode{<input type="checkbox" \%
13407       \ifFld@checked checked \fi
13408       \ifFld@disabled disabled \fi
13409       \ifFld@readonly readonly \fi
13410       name="\Fld@name" \%
13411       \ifFld@hidden type="hidden" \fi
13412       value="\Fld@default" \%
13413       \the\Field@toks>%
13414     #2%
13415   }%
13416   \egroup
13417 }
13418 </tex4ht>

```

## 48.4 pdfTeX

```

13419 <*pdfTeX>
13420 \def\@Gauge[#1]#2#3#4{\% parameters, label, minimum, maximum
13421   \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
13422 }

```



```

13423 \def\MakeFieldObject#1#2{\sbox0{#1}%
13424 \immediate\pdfxform0 %
13425 \expandafter\edef\csname #2Object\endcsname{%
13426 \the\pdfastxform\space 0 R%
13427 }%
13428 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}%
13429 }%
13430 \let\HyField@afields\ltx@empty
13431 \begingroup\expandafter\expandafter\expandafter\endgroup
13432 \expandafter\ifx\csname pdfastlink\endcsname\relax
13433 \let\HyField@AddToFields\relax
13434 \PackageInfo{hyperref}{%
13435 You need pdfTeX 1.40.0 for setting the /Fields entry.%
13436 \MessageBreak
13437 Adobe Reader/Acrobat accepts an empty /Field array,%
13438 \MessageBreak
13439 but other PDF viewers might complain%
13440 }%
13441 \else
13442 \let\HyField@AuxAddToFields\ltx@gobble
13443 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
13444 \Hy@AtBeginDocument{%
13445 \if@filesw
13446 \immediate\write\@mainaux{%
13447 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13448 }%
13449 \fi
13450 \let\HyField@AfterAuxOpen\@firstofone
13451 \def\HyField@AuxAddToFields#1{%
13452 \xdef\HyField@afields{%
13453 \ifx\HyField@afields\@empty
13454 \else
13455 \HyField@afields
13456 \space
13457 \fi
13458 #1 0 R%
13459 }%
13460 }%
13461 }%
13462 \def\HyField@AddToFields{%
13463 \expandafter\HyField@@AddToFields\expandafter{%
13464 \the\pdfastlink
13465 }%
13466 }%
13467 \def\HyField@@AddToFields#1{%
13468 \HyField@AfterAuxOpen{%
13469 \if@filesw
13470 \write\@mainaux{%
13471 \string\HyField@AuxAddToFields{#1}%
13472 }%
13473 \fi
13474 }%
13475 }%
13476 \fi
13477 \def\@Form[#1]{%
13478 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13479 \kvsetkeys{Form}{#1}%

```

```

13480 \pdf@ifdraftmode{}{%
13481 \Hy@FormObjects
13482 \ifnum\pdftexversion>13 %
13483 \pdfrefobj\OBJ@pdfdocencoding
13484 \pdfrefobj\OBJ@ZaDb
13485 \pdfrefobj\OBJ@Helv
13486 \fi
13487 \AtVeryEndDocument{%
13488 \immediate\pdfobj{%
13489 <<%
13490 /Fields[\HyField@afields]%
13491 /DR<<%
13492 /Font<<%
13493 /ZaDb \OBJ@ZaDb\space 0 R%
13494 /Helv \OBJ@Helv\space 0 R%
13495 >>%
13496 >>%
13497 /DA(/Helv 10 Tf 0 g)%
13498 \ifHy@pdfa
13499 \else
13500 \ifHyField@NeedAppearances
13501 /NeedAppearances true%
13502 \fi
13503 \fi
13504 >>%
13505 }%
13506 \edef\OBJ@acroform{\the\pdflastobj}%
13507 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13508 }%
13509 }%
13510 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

13511 \begingroup
13512 \fontfamily{pzd}%
13513 \fontencoding{U}%
13514 \fontseries{m}%
13515 \fontshape{n}%
13516 \selectfont
13517 \char123 %
13518 \endgroup
13519 }{Ding}%
13520 \MakeFieldObject{%
13521 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13522 }{Submit}%
13523 \MakeFieldObject{%
13524 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13525 }{SubmitP}%
13526 }
13527 \let\@endForm\ltx@empty
13528 \let\HyAnn@AbsPageLabel\ltx@empty
13529 \let\Fld@pageobjref\ltx@empty
13530 \ltx@ifundefined{pdfpageref}{%
13531 }{%
13532 \ltx@ifpackageloaded{zref-abspage}{%
13533 \newcount\HyAnn@Count
13534 \HyAnn@Count=\ltx@zero
13535 \def\HyAnn@AbsPageLabel{%

```

```

13536 \global\advance\HyAnn@Count by\ltx@one
13537 \zref@labelbyprops{HyAnn@\the\HyAnn@Count}{abspage}%
13538 \zref@refused{HyAnn@\the\HyAnn@Count}%
13539 }%
13540 \def\Fld@pageobjref{%
13541 \zref@ifrefundefined{HyAnn@\the\HyAnn@Count}{%
13542 }{%
13543 \zref@ifrefcontainsprop{HyAnn@\the\HyAnn@Count}{abspage}{%
13544 /P \pdfpageref
13545 \zref@extractdefault{HyAnn@\the\HyAnn@Count}{abspage}{1} %
13546 \space 0 R%
13547 }{%
13548 }%
13549 }%
13550 }%
13551 }{%
13552 }%
13553 }

13554 \def\@TextField[#1]#2{% parameters, label
13555 \def\Fld@name{#2}%
13556 \let\Fld@default\ltx@empty
13557 \let\Fld@value\@empty
13558 \def\Fld@width{\DefaultWidthofText}%
13559 \def\Fld@height{%
13560 \ifFld@multiline
13561 \DefaultHeightofTextMultiline
13562 \else
13563 \DefaultHeightofText
13564 \fi
13565 }%
13566 \begingroup
13567 \expandafter\HyField@SetKeys\expandafter{%
13568 \DefaultOptionsofText,#1%
13569 }%
13570 \PDFForm@Name
13571 \HyField@FlagsText
13572 \ifFld@hidden\def\Fld@width{1sp}\fi
13573 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13574 \LayoutTextField{#2}{%
13575 \leavevmode
13576 \HyAnn@AbsPageLabel
13577 \Hy@escapeform\PDFForm@Text
13578 \pdfstartlink user {\PDFForm@Text}\relax
13579 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13580 \HyField@AddToFields
13581 }%
13582 \endgroup
13583 }

13584 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13585 \def\Fld@name{#2}%
13586 \let\Fld@default\relax
13587 \let\Fld@value\relax
13588 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13589 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13590 \begingroup
13591 \Fld@menulength=0 %
13592 \@tempdima\z@

```

```

13593 \@for\@curropt:=#3\do{%
13594 \expandafter\Fld@checkequals\@curropt==\\%
13595 \Hy@StepCount\Fld@menulength
13596 \settowidth{\@tempdimb}{\@currDisplay}%
13597 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13598 }%
13599 \advance\@tempdima by 15\p@
13600 \begingroup
13601 \HyField@SetKeys{#1}%
13602 \edef\x{\endgroup
13603 \noexpand\expandafter
13604 \noexpand\HyField@SetKeys
13605 \noexpand\expandafter{%
13606 \expandafter\noexpand\csname DefaultOptionsof%
13607 \ifFld@radio
13608 Radio%
13609 \else
13610 \ifFld@combo
13611 \ifFld@popdown
13612 PopdownBox%
13613 \else
13614 ComboBox%
13615 \fi
13616 \else
13617 ListBox%
13618 \fi
13619 \fi
13620 \endcsname
13621 }%
13622 }\x
13623 \HyField@SetKeys{#1}%
13624 \PDFForm@Name
13625 \ifFld@hidden\def\Fld@width{1sp}\fi
13626 \ifx\Fld@value\relax
13627 \let\Fld@value\Fld@default
13628 \fi
13629 \LayoutChoiceField{#2}{%
13630 \ifFld@radio
13631 \HyField@FlagsRadioButton
13632 \@@Radio{#3}%
13633 \else
13634 \begingroup
13635 \HyField@FlagsChoice
13636 \ifdim\Fld@width<\@tempdima
13637 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13638 \edef\Fld@width{\the\@tempdima}%
13639 \fi
13640 \ifFld@combo
13641 \else
13642 \@tempdima=\the\Fld@menulength\Fld@charsize
13643 \advance\@tempdima by \Fld@borderwidth bp %
13644 \advance\@tempdima by \Fld@borderwidth bp %
13645 \edef\Fld@height{\the\@tempdima}%
13646 \fi
13647 \@@ListBox{#3}%
13648 \endgroup
13649 \fi

```

```

13650 }%
13651 \endgroup
13652 }
13653 \def\@@Radio#1{%
13654 \Fld@listcount=0 %
13655 \EdefEscapeName\Fld@default{\Fld@default}%
13656 \@for\@curropt:=#1\do{%
13657 \expandafter\Fld@checkequals\@curropt==\%
13658 \EdefEscapeName\@currValue{\@currValue}%
13659 \Hy@StepCount\Fld@listcount
13660 \@currDisplay\space
13661 \leavevmode
13662 \HyAnn@AbsPageLabel
13663 \Hy@escapeform\PDFForm@Radio
13664 \pdfstartlink user {%
13665 \PDFForm@Radio
13666 /AP<<%
13667 /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.

```

13668 /\@currValue\space \DingObject
13669 >>%
13670 >>%
13671 }%
13672 \relax
13673 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13674 \ifnum\Fld@listcount=1 %
13675 \HyField@AddToFields
13676 \fi
13677 \space % deliberate space between radio buttons
13678 }%
13679 }
13680 \newcount\Fld@listcount
13681 \def\@@Listbox#1{%
13682 \HyField@PDFChoices{#1}%
13683 \leavevmode
13684 \HyAnn@AbsPageLabel
13685 \Hy@escapeform\PDFForm@List
13686 \pdfstartlink user {\PDFForm@List}\relax
13687 \MakeChoiceField{\Fld@width}{\Fld@height}%
13688 \pdfendlink
13689 \HyField@AddToFields
13690 }
13691 \def\@PushButton[#1]#2{% parameters, label
13692 \def\Fld@name{#2}%
13693 \begingroup
13694 \expandafter\HyField@SetKeys\expandafter{%
13695 \DefaultOptionsofPushButton,#1%
13696 }%
13697 \PDFForm@Name
13698 \ifHy@pdfa
13699 \Hy@Error{%
13700 PDF/A: Push button with JavaScript is prohibited%
13701 }\@ehc
13702 \LayoutPushButtonField{%
13703 \leavevmode

```

```

13704     \MakeButtonField{#2}%
13705 }%
13706 \else
13707     \HyField@FlagsPushButton
13708     \ifFld@hidden\def\Fld@width{1sp}\fi
13709     \LayoutPushButtonField{%
13710         \leavevmode
13711         \HyAnn@AbsPageLabel
13712         \Hy@escapeform\PDFForm@Push
13713         \pdfstartlink user {\PDFForm@Push}\relax
13714         \MakeButtonField{#2}%
13715         \pdfendlink
13716         \HyField@AddToFields
13717     }%
13718 \fi
13719 \endgroup
13720 }
13721 \def\@Submit[#1]#2{%
13722     \def\Fld@width{\DefaultWidthofSubmit}%
13723     \def\Fld@height{\DefaultHeightofSubmit}%
13724     \begingroup
13725         \expandafter\HyField@SetKeys\expandafter{%
13726             \DefaultOptionsofSubmit,#1%
13727         }%
13728         \HyField@FlagsPushButton
13729         \HyField@FlagsSubmit
13730         \ifFld@hidden\def\Fld@width{1sp}\fi
13731         \leavevmode
13732         \HyAnn@AbsPageLabel
13733         \Hy@escapeform\PDFForm@Submit
13734         \pdfstartlink user {%
13735             \PDFForm@Submit
13736             /AP<</N \SubmitObject/D \SubmitPObject>>%
13737         }%
13738         \relax
13739         \MakeButtonField{#2}%
13740         \pdfendlink
13741         \HyField@AddToFields
13742     \endgroup
13743 }
13744 \def\@Reset[#1]#2{%
13745     \def\Fld@width{\DefaultWidthofReset}%
13746     \def\Fld@height{\DefaultHeightofReset}%
13747     \begingroup
13748         \expandafter\HyField@SetKeys\expandafter{%
13749             \DefaultOptionsofReset,#1%
13750         }%
13751         \leavevmode
13752         \ifHy@pdfa
13753             \Hy@Error{%
13754                 PDF/A: Reset action is prohibited%
13755             }\@ehc
13756             \MakeButtonField{#2}%
13757         \else
13758             \HyField@FlagsPushButton
13759             \ifFld@hidden\def\Fld@width{1sp}\fi
13760             \HyAnn@AbsPageLabel

```

```

13761 \Hy@escapeform\PDFForm@Reset
13762 \pdfstartlink user {\PDFForm@Reset}\relax
13763 \MakeButtonField{#2}%
13764 \pdfendlink
13765 \HyField@AddToFields
13766 \fi
13767 \endgroup
13768 }
13769 \def\@CheckBox[#1]#2{% parameters, label
13770 \def\Fld@name{#2}%
13771 \def\Fld@default{0}%
13772 \begingroup
13773 \def\Fld@width{\DefaultWidthofCheckBox}%
13774 \def\Fld@height{\DefaultHeightofCheckBox}%
13775 \expandafter\HyField@SetKeys\expandafter{%
13776 \DefaultOptionsofCheckBox,#1%
13777 }%
13778 \PDFForm@Name
13779 \HyField@FlagsCheckBox
13780 \ifFld@hidden\def\Fld@width{1sp}\fi
13781 \LayoutCheckField{#2}{%
13782 \leavevmode
13783 \HyAnn@AbsPageLabel
13784 \Hy@escapeform\PDFForm@Check
13785 \pdfstartlink user {\PDFForm@Check}\relax
13786 \MakeCheckField{\Fld@width}{\Fld@height}%
13787 \pdfendlink
13788 \HyField@AddToFields
13789 }%
13790 \endgroup
13791 }
13792 \def\Hy@FormObjects{%
13793 \pdfobj {%
13794 <<%
13795 /Type/Encoding%
13796 /Differences[%
13797 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13798 /ring/tilde %
13799 39/quotesingle %
13800 96/grave %
13801 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13802 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13803 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13804 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13805 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13806 164/currency %
13807 166/brokenbar %
13808 168/dieresis/copyright/ordfeminine %
13809 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13810 /twosuperior/threesuperior/acute/mu %
13811 183/periodcentered/cedilla/onesuperior/ordmasculine %
13812 188/onequarter/onehalf/threequarters %
13813 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13814 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13815 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13816 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13817 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%

```

```

13818      /grave/aacute/acircumflex/atilde/adieresis/aring/ae%
13819      /cedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13820      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13821      /ocircumflex/otilde/odieresis/divide/oshlash/ugrave%
13822      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13823      ]%
13824      >>%
13825      }%
13826      \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
13827      \pdfobj{%
13828      <<%
13829      /Type/Font%
13830      /Subtype/Type1%
13831      /Name/ZaDb%
13832      /BaseFont/ZapfDingbats%
13833      >>%
13834      }%
13835      \xdef\OBJ@ZaDb{\the\pdflastobj}%
13836      \pdfobj{%
13837      <<%
13838      /Type/Font%
13839      /Subtype/Type1%
13840      /Name/Helv%
13841      /BaseFont/Helvetica%
13842      /Encoding \OBJ@pdfdocencoding\space 0 R%
13843      >>%
13844      }%
13845      \xdef\OBJ@Helv{\the\pdflastobj}%
13846      \global\let\Hy@FormObjects\relax
13847      }
13848      </pdfTeX>

```

## 48.5 dvipdfm, xetex

D. P. Story adapted the pdf<sub>T</sub>E<sub>X</sub> forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
13849 <{*dvipdfm | xetex>
```

\@Gauge

```

13850 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13851   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13852 }

```

\@Form

```

13853 \def\@Form[#1]{%
13854   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13855   \kvsetkeys{Form}{#1}%
13856   \Hy@FormObjects
13857   \@pdfm@mark{obj @afields []}%
13858   \@pdfm@mark{obj @corder []}%
13859   \@pdfm@mark{%
13860     obj @aform <<%
13861     /Fields @afields%
13862     /DR<<%
13863     /Font<<%
13864     /ZaDb @OBJZaDb%
13865     /Helv @OBJHelv%
13866     >>%

```



```

13867    >>%
13868    /DA(/Helv 10 Tf 0 g)%
13869    /CO @corder%
13870    \ifHy@pdfa
13871    \else
13872    \ifHyField@NeedAppearances
13873    /NeedAppearances true%
13874    \fi
13875    \fi
13876    >>%
13877    }%
13878    \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13879    }

```

\@endForm

```

13880 \let\@endForm\ltx@empty

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

13881 \def\dvipdfm@setdim{%
13882   height \the\ht\pdfm@box\space
13883   width \the\wd\pdfm@box\space
13884   depth \the\dp\pdfm@box\space
13885 }

```

\HyField@AnnotCount

```

13886 \newcount\HyField@AnnotCount
13887 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

13888 \def\HyField@AdvanceAnnotCount{%
13889   \global\advance\HyField@AnnotCount\@ne
13890 }

```

\HyField@TheAnnotCount

```

13891 \def\HyField@TheAnnotCount{%
13892   \the\HyField@AnnotCount
13893 }

```

\Fld@pageobjref

```

13894 \def\Fld@pageobjref{/P @thispage}%

```

\@TextField

```

13895 \def\@TextField[#1]#2{% parameters, label
13896   \def\Fld@name{#2}%
13897   \let\Fld@default\ltx@empty
13898   \let\Fld@value\@empty
13899   \def\Fld@width{\DefaultWidthofText}%
13900   \def\Fld@height{%
13901     \ifFld@multiline
13902       \DefaultHeightofTextMultiline
13903     \else
13904       \DefaultHeightofText
13905     \fi
13906   }%
13907   \begingroup
13908     \expandafter\HyField@SetKeys\expandafter{%

```

```

13909 \DefaultOptionsofText,#1%
13910 }%
13911 \PDFForm@Name
13912 \HyField@FlagsText
13913 \ifFld@hidden\def\Fld@width{1sp}\fi
13914 \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
13915 \setbox\pdfm@box=\hbox{%
13916   \MakeTextField{\Fld@width}{\Fld@height}%
13917 }%
13918 \HyField@AdvanceAnnotCount
13919 \LayoutTextField{#2}{%
13920   \leavevmode
13921   \Hy@escapeform\PDFForm@Text
13922   \@pdfm@mark{%
13923     ann @text\HyField@TheAnnotCount\space
13924     \dvipdfm@setdim << \PDFForm@Text >>%
13925   }%
13926 }%
13927 \unhbox\pdfm@box
13928 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13929 % record in @afields array
13930 \endgroup
13931 }

```

#### \@ChoiceMenu

```

13932 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13933   \def\Fld@name{#2}%
13934   \let\Fld@default\relax
13935   \let\Fld@value\relax
13936   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13937   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13938   \begingroup
13939     \Fld@menulength=0 %
13940     \@tempdima\z@
13941     \@for\@curropt:=#3\do{%
13942       \expandafter\Fld@checkequals\@curropt==\%
13943       \Hy@StepCount\Fld@menulength
13944       \settowidth{\@tempdimb}{\@currDisplay}%
13945       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13946     }%
13947     \advance\@tempdima by 15\p@
13948     \begingroup
13949       \HyField@SetKeys{#1}%
13950     \edef\x{\endgroup
13951       \noexpand\expandafter
13952       \noexpand\HyField@SetKeys
13953       \noexpand\expandafter{%
13954         \expandafter\noexpand\csname DefaultOptionsof%
13955           \ifFld@radio
13956             Radio%
13957           \else
13958             \ifFld@combo
13959               \ifFld@popdown
13960                 PopdownBox%
13961               \else
13962                 ComboBox%
13963             \fi
13964           \else

```

```

13965         ListBox%
13966     \fi
13967 \fi
13968 \endcsname
13969 }%
13970 }\x
13971 \HyField@SetKeys{#1}%
13972 \PDFForm@Name
13973 \ifFld@hidden\def\Fld@width{1sp}\fi
13974 \ifx\Fld@value\relax
13975     \let\Fld@value\Fld@default
13976 \fi
13977 \LayoutChoiceField{#2}{%
13978     \ifFld@radio
13979         \HyField@FlagsRadioButton
13980         \@@Radio{#3}%
13981     \else
13982         \begingroup
13983         \HyField@FlagsChoice
13984         \ifdim\Fld@width<\@tempdima
13985             \ifdim\@tempdima<1cm\@tempdima1cm\fi
13986             \edef\Fld@width{\the\@tempdima}%
13987         \fi
13988         \ifFld@combo
13989         \else
13990             \@tempdima=\the\Fld@menulength\Fld@charsize
13991             \advance\@tempdima by \Fld@borderwidth bp %
13992             \advance\@tempdima by \Fld@borderwidth bp %
13993             \edef\Fld@height{\the\@tempdima}%
13994         \fi
13995         \@@ListBox{#3}%
13996     \endgroup
13997 \fi
13998 }%
13999 \endgroup
14000 }

```

\@@Radio

```

14001 \def\@@Radio#1{%
14002     \Fld@listcount=0 %
14003     \EdefEscapeName\Fld@default{\Fld@default}%
14004     \setbox\pdfm@box=\hbox{%
14005         \MakeRadioField{\Fld@width}{\Fld@height}%
14006     }%
14007     \@for\@curropt:=#1\do{%
14008         \expandafter\Fld@checkequals\@curropt==\%
14009         \EdefEscapeName\@currValue{\@currValue}%
14010         \Hy@StepCount\Fld@listcount
14011         \@currDisplay\space
14012         \leavevmode
14013         \Hy@escapeform\PDFForm@Radio
14014         \ifnum\Fld@listcount=1 %
14015             \HyField@AdvanceAnnotCount
14016         \fi
14017         \@pdfm@mark{%
14018             ann %
14019             \ifnum\Fld@listcount=1 %
14020                 @radio\HyField@TheAnnotCount%

```

```

14021     \space
14022     \fi
14023     \dvipdfm@setdim
14024     <<%
14025     \PDFForm@Radio
14026     /AP<</N<</\@currValue /null>>>>%
14027     >>%
14028 }%
14029 \unhcopy\pdfm@box\space% deliberate space between radio buttons
14030 \ifnum\Fld@listcount=1 %
14031     \@pdfm@mark{%
14032         put @afields @radio\HyField@TheAnnotCount
14033     }%
14034     \fi
14035 }%
14036 }

\Fld@listcount
14037 \newcount\Fld@listcount

\@@Listbox
14038 \def\@@Listbox#1{%
14039     \HyField@PDFChoices{#1}%
14040     \setbox\pdfm@box=\hbox{%
14041         \MakeChoiceField{\Fld@width}{\Fld@height}%
14042     }%
14043     \leavevmode
14044     \Hy@escapeform\PDFForm@List
14045     \HyField@AdvanceAnnotCount
14046     \@pdfm@mark{%
14047         ann @list\HyField@TheAnnotCount\space
14048         \dvipdfm@setdim
14049         <<\PDFForm@List>>%
14050     }%
14051     \unhbox\pdfm@box
14052     \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
14053 }

\@PushButton
14054 \def\@PushButton[#1]#2{% parameters, label
14055     \def\Fld@name{#2}%
14056     \begingroup
14057     \expandafter\HyField@SetKeys\expandafter{%
14058         \DefaultOptionsofPushButton,#1%
14059     }%
14060     \PDFForm@Name
14061     \ifHy@pdfa
14062         \Hy@Error{%
14063             PDF/A: Push button with JavaScript is prohibited%
14064         }\@ehc
14065     \LayoutPushButtonField{%
14066         \leavevmode
14067         \MakeButtonField{#2}%
14068     }%
14069     \else
14070         \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14071         \HyField@FlagsPushButton

```

```

14072 \ifFld@hidden\def\Fld@width{1sp}\fi
14073 \HyField@AdvanceAnnotCount
14074 \LayoutPushButtonField{%
14075 \leavevmode
14076 \Hy@escapeform\PDFForm@Push
14077 \@pdfm@mark{%
14078 ann @push\HyField@TheAnnotCount\space
14079 \dvipdfm@setdim
14080 <<\PDFForm@Push>>%
14081 }%
14082 }%
14083 \unhbox\pdfm@box
14084 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
14085 \fi
14086 \endgroup
14087 }

```

\@Submit

```

14088 \def\@Submit[#1]#2{%
14089 \def\Fld@width{\DefaultWidthofSubmit}%
14090 \def\Fld@height{\DefaultHeightofSubmit}%
14091 \begingroup
14092 \expandafter\HyField@SetKeys\expandafter{%
14093 \DefaultOptionsofSubmit,#1%
14094 }%
14095 \HyField@FlagsPushButton
14096 \HyField@FlagsSubmit
14097 \ifFld@hidden\def\Fld@width{1sp}\fi
14098 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14099 \leavevmode
14100 \Hy@escapeform\PDFForm@Submit
14101 \HyField@AdvanceAnnotCount
14102 \@pdfm@mark{%
14103 ann @submit\HyField@TheAnnotCount\space
14104 \dvipdfm@setdim
14105 <<\PDFForm@Submit>>%
14106 }%
14107 \unhbox\pdfm@box%
14108 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
14109 \endgroup
14110 }

```

\@Reset

```

14111 \def\@Reset[#1]#2{%
14112 \def\Fld@width{\DefaultWidthofReset}%
14113 \def\Fld@height{\DefaultHeightofReset}%
14114 \begingroup
14115 \expandafter\HyField@SetKeys\expandafter{%
14116 \DefaultOptionsofReset,#1%
14117 }%
14118 \leavevmode
14119 \ifHy@pdfa
14120 \Hy@Error{%
14121 PDF/A: Reset action is prohibited%
14122 }\@ehc
14123 \MakeButtonField{#2}%
14124 \else

```

```

14125 \HyField@FlagsPushButton
14126 \ifFld@hidden\def\Fld@width{1sp}\fi
14127 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}}%
14128 \Hy@escapeform\PDFForm@Reset
14129 \HyField@AdvanceAnnotCount
14130 \@pdfm@mark{%
14131   ann @reset\HyField@TheAnnotCount\space
14132   \dvipdfm@setdim
14133   <<\PDFForm@Reset>>%
14134 }%
14135 \unhbox\pdfm@box
14136 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
14137 \fi
14138 \endgroup
14139 }

```

#### \@CheckBox

```

14140 \def\@CheckBox[#1]#2{% parameters, label
14141   \def\Fld@name{#2}%
14142   \def\Fld@default{0}%
14143   \begingroup
14144     \def\Fld@width{\DefaultWidthofCheckBox}%
14145     \def\Fld@height{\DefaultHeightofCheckBox}%
14146     \expandafter\HyField@SetKeys\expandafter{%
14147       \DefaultOptionsofCheckBox,#1%
14148     }%
14149     \PDFForm@Name
14150     \HyField@FlagsCheckBox
14151     \ifFld@hidden\def\Fld@width{1sp}\fi
14152     \setbox\pdfm@box=\hbox{%
14153       \MakeCheckField{\Fld@width}{\Fld@height}%
14154     }%
14155     \HyField@AdvanceAnnotCount
14156     \LayoutCheckField{#2}{%
14157       \leavevmode
14158       \Hy@escapeform\PDFForm@Check
14159       \@pdfm@mark{%
14160         ann @check\HyField@TheAnnotCount\space
14161         \dvipdfm@setdim
14162         <<\PDFForm@Check>>%
14163       }%
14164       \unhbox\pdfm@box
14165       \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
14166     }%
14167   \endgroup
14168 }

14169 \def\Hy@FormObjects{%
14170   \@pdfm@mark{obj @OBJpdfdocencoding%
14171     <<%
14172       /Type/Encoding%
14173       /Differences[%
14174         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
14175         39/quotesingle %
14176         96/grave %
14177         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
14178         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
14179         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%

```

```

14180      /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
14181      /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
14182      164/currency %
14183      166/brokenbar %
14184      168/dieresis/copyright/ordfeminine %
14185      172/logicalnot/.notdef/registered/macron/degree/plusminus%
14186      /twosuperior/threesuperior/acute/mu %
14187      183/periodcentered/cedilla/onesuperior/ordmasculine %
14188      188/onequarter/onehalf/threequarters %
14189      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
14190      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
14191      /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
14192      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
14193      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
14194      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
14195      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
14196      /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
14197      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
14198      /thorn/ydieresis%
14199      ]%
14200      >>%
14201      }%
14202      \@pdfm@mark{obj @OBJZaDb%
14203      <<%
14204      /Type/Font%
14205      /Subtype/Type1%
14206      /Name/ZaDb%
14207      /BaseFont/ZapfDingbats%
14208      >>%
14209      }%
14210      \@pdfm@mark{obj @OBJHelv%
14211      <<%
14212      /Type/Font%
14213      /Subtype/Type1%
14214      /Name/Helv%
14215      /BaseFont/Helvetica%
14216      /Encoding @OBJpdfdocencoding%
14217      >>%
14218      }%
14219      \global\let\Hy@FormObjects\relax
14220      }
14221      </dvipdfm | xetex>

```

## 48.6 Common forms part

```

14222 (*pdfmform)

\Fld@pageobjref

14223 \providecommand*{\Fld@pageobjref}{}

\Hy@escapestring

14224 \begingroup\expandafter\expandafter\expandafter\endgroup
14225 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
14226   \let\Hy@escapestring\@firstofone
14227   \def\Hy@escapeform#1{%
14228     \ifHy@pdfescapeform
14229     \def\Hy@escapestring##1{%

```

```

14230     \noexpand\Hy@escapestring{\noexpand##1}%
14231   }%
14232   \edef\Hy@temp{#1}%
14233   \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
14234   \def\Hy@escapestring##1{%
14235     \@ifundefined{Hy@esc@\string##1}{%
14236       ##1%
14237       \ThisShouldNotHappen
14238     }{%
14239       \csname Hy@esc@\string##1\endcsname
14240     }%
14241   }%
14242   \else
14243     \let\Hy@escapestring\@firstofone
14244   \fi
14245 }%
14246 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
14247   \ifx\#3\%
14248     \else
14249       \expandafter
14250         \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
14251       \ltx@ReturnAfterFi{%
14252         \Hy@@escapeform#3\@nil
14253       }%
14254     \fi
14255   }%
14256   \else
14257     \def\Hy@escapeform#1{%
14258       \ifHy@pdfescapeform
14259         \let\Hy@escapestring\pdfescapestring
14260       \else
14261         \let\Hy@escapestring\@firstofone
14262       \fi
14263     }%
14264     \Hy@escapeform{}%
14265   \fi

```

\PDFForm@Name

```

14266 \def\PDFForm@Name{%
14267   \PDFForm@@Name\Fld@name
14268   \ifx\Fld@altname\relax
14269     \else
14270       \PDFForm@@Name\Fld@altname
14271     \fi
14272   \ifx\Fld@mappingname\relax
14273     \else
14274       \PDFForm@@Name\Fld@mappingname
14275     \fi
14276 }

```

\PDFForm@@Name

```

14277 \def\PDFForm@@Name#1{%
14278   \begingroup
14279   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
14280     \ifHy@unicode
14281       \Hy@unicodedefalse
14282     \fi

```



```

14283 \fi
14284 \HyPsd@XeTeXBigCharstrue
14285 \pdfstringdef\Hy@gtemp#1%
14286 \endgroup
14287 \let#1\Hy@gtemp
14288 }

```

\Fld@additionalactions

```

14289 \def\Fld@@additionalactions{%
K input (keystroke) format
14290 \ifx\Fld@keystroke@code\@empty
14291 \else
14292 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
14293 \fi
F display format
14294 \ifx\Fld@format@code\@empty
14295 \else
14296 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
14297 \fi
V validation
14298 \ifx\Fld@validate@code\@empty
14299 \else
14300 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
14301 \fi
C calculation
14302 \ifx\Fld@calculate@code\@empty
14303 \else
14304 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
14305 \fi
Fo receiving the input focus
14306 \ifx\Fld@onfocus@code\@empty
14307 \else
14308 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
14309 \fi
Bl loosing the input focus (blurred)
14310 \ifx\Fld@onblur@code\@empty
14311 \else
14312 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
14313 \fi
D pressing the mouse button (down)
14314 \ifx\Fld@onmousedown@code\@empty
14315 \else
14316 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
14317 \fi
U releasing the mouse button (up)
14318 \ifx\Fld@onmouseup@code\@empty
14319 \else
14320 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
14321 \fi
E cursor enters the annotation's active area.
14322 \ifx\Fld@onenter@code\@empty
14323 \else

```

```

14324 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
14325 \fi
X cursor exits the annotation's active area.
14326 \ifx\Fld@onexit@code\@empty
14327 \else
14328 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
14329 \fi
14330 }
14331 \def\Fld@additionalactions{%
14332 \if\Fld@@additionalactions-%
14333 \else
14334 \ifHy@pdfa
14335 \else
14336 /AA<<\Fld@@additionalactions>>%
14337 \fi
14338 \fi
14339 }

```

\Fld@annotnames

```

14340 \def\Fld@annotnames{%
14341 /T(\Fld@name)%
14342 \ifx\Fld@altname\relax
14343 \else
14344 /TU(\Fld@altname)%
14345 \fi
14346 \ifx\Fld@mappingname\relax
14347 \else
14348 /TM(\Fld@mappingname)%
14349 \fi
14350 }

```

\PDFForm@Check

```

14351 \def\PDFForm@Check{%
14352 /Subtype/Widget%
14353 \Fld@annotflags
14354 \Fld@pageobjref
14355 \Fld@annotnames
14356 /FT/Btn%
14357 \Fld@flags
14358 /Q \Fld@align
14359 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
14360 /MK<<%
14361 \ifnum\Fld@rotation=\z@
14362 \else
14363 /R \Fld@rotation
14364 \fi
14365 \ifx\Fld@bordercolor\relax
14366 \else
14367 /BC[\Fld@bordercolor]%
14368 \fi
14369 \ifx\Fld@bcolor\relax
14370 \else
14371 /BG[\Fld@bcolor]%
14372 \fi
14373 /CA(\Hy@escapestring{\Fld@cbsymbol})%
14374 >>%
14375 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%

```

```

14376     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14377 /H/P%
14378 \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi
14379 \Fld@additionalactions
14380 }

```

#### \PDFForm@Push

```

14381 \ifHy@pdfa
14382 \else
14383   \def\PDFForm@Push{%
14384     /Subtype/Widget%
14385     \Fld@annotflags
14386     \Fld@pageobjref
14387     \Fld@annotnames
14388     /FT/Btn%
14389     \Fld@flags
14390     /H/P%
14391     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14392     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14393       \ifx\Fld@bordercolor\relax\else 1\fi
14394       \space
14395     \else
14396       /MK<<%
14397       \ifnum\Fld@rotation=\z@
14398       \else
14399       /R \Fld@rotation
14400       \fi
14401       \ifx\Fld@bordercolor\relax
14402       \else
14403       /BC[\Fld@bordercolor]%
14404       \fi
14405       >>%
14406     \fi
14407     /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14408     \Fld@additionalactions
14409   }%
14410 \fi

```

#### \PDFForm@List

```

14411 \def\PDFForm@List{%
14412   /Subtype/Widget%
14413   \Fld@annotflags
14414   \Fld@pageobjref
14415   \Fld@annotnames
14416   /FT/Ch%
14417   \Fld@flags
14418   /Q \Fld@align
14419   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14420   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14421     \ifx\Fld@bordercolor\relax\else 1\fi
14422     \ifx\Fld@bcolor\relax \else 1\fi
14423     \space
14424   \else
14425     /MK<<%
14426     \ifnum\Fld@rotation=\z@
14427     \else
14428     /R \Fld@rotation

```

```

14429 \fi
14430 \ifx\Fld@bordercolor\relax
14431 \else
14432 /BC[\Fld@bordercolor]%
14433 \fi
14434 \ifx\Fld@bcolor\relax
14435 \else
14436 /BG[\Fld@bcolor]%
14437 \fi
14438 >>%
14439 \fi
14440 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14441 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14442 \Fld@choices
14443 \Fld@additionalactions
14444 }

```

\PDFForm@Radio

```

14445 \def\PDFForm@Radio{%
14446 /Subtype/Widget%
14447 \Fld@annotflags
14448 \Fld@pageobjref
14449 \Fld@annotnames
14450 /FT/Btn%
14451 \Fld@flags
14452 /H/P%
14453 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14454 /MK<<%
14455 \ifnum\Fld@rotation=\z@
14456 \else
14457 /R \Fld@rotation
14458 \fi
14459 \ifx\Fld@bordercolor\relax
14460 \else
14461 /BC[\Fld@bordercolor]%
14462 \fi
14463 \ifx\Fld@bcolor\relax
14464 \else
14465 /BG[\Fld@bcolor]%
14466 \fi
14467 /CA(\Hy@escapestring{\Fld@radiosymbol})%
14468 >>%
14469 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14470 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14471 \ifx\@currValue\Fld@default
14472 /V/\Fld@default
14473 /DV/\Fld@default
14474 \else
14475 /V/Off%
14476 /DV/Off%
14477 \fi
14478 \Fld@additionalactions
14479 }

```

\PDFForm@Text

```

14480 \def\PDFForm@Text{%
14481 /Subtype/Widget%

```

```

14482 \Fld@annotflags
14483 \Fld@pageobjref
14484 \Fld@annotnames
14485 /FT/Tx%
14486 \Fld@flags
14487 /Q \Fld@align
14488 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14489 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14490     \ifx\Fld@bordercolor\relax\else 1\fi
14491     \ifx\Fld@bcolor\relax \else 1\fi
14492     \space
14493 \else
14494 /MK<<%
14495     \ifnum\Fld@rotation=\z@
14496     \else
14497     /R \Fld@rotation
14498     \fi
14499     \ifx\Fld@bordercolor\relax
14500     \else
14501     /BC[\Fld@bordercolor]%
14502     \fi
14503     \ifx\Fld@bcolor\relax
14504     \else
14505     /BG[\Fld@bcolor]%
14506     \fi
14507 >>%
14508 \fi
14509 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14510     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14511 /DV(\Hy@escapestring{\Fld@default})%
14512 /V(\Hy@escapestring{\Fld@value})%
14513 \Fld@additionalactions
14514 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14515 }

```

\PDFForm@Submit

```

14516 \def\PDFForm@Submit{%
14517 /Subtype/Widget%
14518 \Fld@annotflags
14519 \Fld@pageobjref
14520 \Fld@annotnames
14521 /FT/Btn%
14522 \Fld@flags
14523 /H/P%
14524 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14525 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14526     \ifx\Fld@bordercolor\relax\else 1\fi
14527     \space
14528 \else
14529 /MK<<%
14530     \ifnum\Fld@rotation=\z@
14531     \else
14532     /R \Fld@rotation
14533     \fi
14534     \ifx\Fld@bordercolor\relax
14535     \else
14536     /BC[\Fld@bordercolor]%
14537     \fi

```

```

14538 >>%
14539 \fi
14540 /A<<%
14541 /S/SubmitForm%
14542 /F<<%
14543 /FS/URL%
14544 /F(\Hy@escapestring{\Form@action})%
14545 >>%
14546 \Fld@submitflags
14547 >>%
14548 \Fld@additionalactions
14549 }

```

\PDFForm@Reset

```

14550 \ifHy@pdfa
14551 \else
14552 \def\PDFForm@Reset{%
14553 /Subtype/Widget%
14554 \Fld@annotflags
14555 \Fld@pageobjref
14556 \Fld@annotnames
14557 /FT/Btn%
14558 \Fld@flags
14559 /H/P%
14560 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14561 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14562 \ifx\Fld@bordercolor\relax\else 1\fi
14563 \space
14564 \else
14565 /MK<<%
14566 \ifnum\Fld@rotation=\z@
14567 \else
14568 /R \Fld@rotation
14569 \fi
14570 \ifx\Fld@bordercolor\relax
14571 \else
14572 /BC[\Fld@bordercolor]%
14573 \fi
14574 % /CA (Clear)
14575 % /AC (Done)
14576 >>%
14577 \fi
14578 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14579 /A<</S/ResetForm>>%
14580 \Fld@additionalactions
14581 }%
14582 \fi

14583 </pdfform>
14584 <*package>

```

## 49 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `reper.sty`); it needed the `reper` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in  $\text{\LaTeX}$  macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

14585 \def\phantomsection{%
14586   \Hy@MakeCurrentHrefAuto{section*}%
14587   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14588 }
14589 \</package>

```

## 49.1 Bookmarks

```
14590 <*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  $\varepsilon$ -TeX, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of  $\varepsilon$ -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.

```

14591 \def\Hy@writebookmark#1#2#3#4#5{%
14592   % section number, text, label, level, file
14593   \ifx\WriteBookmarks\relax%
14594   \else
14595     \ifnum#4>\Hy@bookmarksdepth\relax
14596     \else
14597       \@writetorep{#1}{#2}{#3}{#4}{#5}%
14598     \fi
14599   \fi
14600 }
14601 \def\Hy@currentbookmarklevel{0}
14602 \def\Hy@numberline#1{#1 }
14603 \def\@writetorep#1#2#3#4#5{%
14604   \begingroup
14605     \edef\Hy@tempa{#5}%
14606     \ifx\Hy@tempa\Hy@bookmarkstype
14607       \edef\Hy@level{#4}%
14608       \ifx\Hy@levelcheck Y%
14609         \@tempcnta\Hy@level\relax
14610         \advance\@tempcnta by -1 %
14611         \ifnum\Hy@currentbookmarklevel<\@tempcnta
14612           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14613           \advance\@tempcnta by 1 %
14614           \Hy@Warning{%
14615             Difference (\the\@tempcnta) between bookmark levels is %

```

```

14616         greater \MessageBreak than one, level fixed%
14617     }%
14618     \@tempcnta\Hy@currentbookmarklevel
14619     \advance\@tempcnta by 1 %
14620     \edef\Hy@level{\the\@tempcnta}%
14621     \fi
14622 \else
14623     \global\let\Hy@levelcheck Y%
14624     \fi
14625     \global\let\Hy@currentbookmarklevel\Hy@level
14626     \@tempcnta\Hy@level\relax
14627     \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14628     \advance\@tempcnta by -1 %
14629     \edef\Hy@tempa{#3}%
14630     \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14631     \ifx\Hy@tempa\Hy@tempb
14632         \Hy@Warning{%
14633             The anchor of a bookmark and its parent's must not%
14634             \MessageBreak be the same. Added a new anchor%
14635         }%
14636     \phantomsection
14637     \fi
14638     \ifHy@bookmarksnumbered
14639         \let\numberline\Hy@numberline
14640         \let\booknumberline\Hy@numberline
14641         \let\partnumberline\Hy@numberline
14642         \let\chapternumberline\Hy@numberline
14643     \else
14644         \let\numberline\@gobble
14645         \let\booknumberline\@gobble
14646         \let\partnumberline\@gobble
14647         \let\chapternumberline\@gobble
14648     \fi
14649     \HyPsd@XeTeXBigCharstrue
14650     \pdfstringdef\Hy@tempa{#2}%
14651     \HyPsd@SanitizeForOutFile\Hy@tempa
14652     \if@filesw
14653         \stepcounter{bookmark@seq@number}%
14654         \@ifundefined{@outlinefile}{%
14655             {%
14656                 \protected@write\@outlinefile{}{%
14657                     \protect\BOOKMARK
14658                     [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14659                     {\Hy@tempa}{\Hy@tempb}%
14660                     \@percentchar\space\thebookmark@seq@number
14661                 }%
14662             }%
14663         \fi
14664     \fi
14665 \endgroup
14666 }
14667 \newcounter{bookmark@seq@number}

14668 \begingroup
14669 \lccode'('= '{%
14670 \lccode'='='}%
14671 \lccode'1=\z@
14672 \lccode'2=\z@

```



```

14673 \lccode'3=\z@
14674 \lccode'5=\z@
14675 \lccode'7=\z@
14676 \lccode'\#=\z@
14677 \lccode'\'=\z@
14678 \lccode'\{=\z@
14679 \lccode'\}=\z@
14680 \lowercase{%
14681 \endgroup
14682 \def\HyPsd@SanitizeForOutFile#1{%
14683   \@onelevel@sanitize\Hy@tempa
14684   \escapechar'\%
14685   \edef\Hy@tempa{%
14686     \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa\@nil
14687   }%
14688   \edef\Hy@tempa{%
14689     \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa\@nil
14690   }%
14691 }%
14692 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14693   #1%
14694   \ifx\#2\%
14695     \expandafter\ltx@gobble
14696   \else
14697     \expandafter\ltx@firstofone
14698   \fi
14699   {%
14700     \string\173%
14701     \HyPsd@SanitizeOut@BraceLeft#2\@nil
14702   }%
14703 }%
14704 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14705   #1%
14706   \ifx\#2\%
14707     \expandafter\ltx@gobble
14708   \else
14709     \expandafter\ltx@firstofone
14710   \fi
14711   {%
14712     \string\175%
14713     \HyPsd@SanitizeOut@BraceRight#2\@nil
14714   }%
14715 }%
14716 }

```

In the call of \BOOKMARK the braces around #4 are omitted, because it is not likely, that the level number contains ].

```

14717 \newcommand{\currentpdfbookmark}{%
14718   \pdfbookmark[\Hy@currentbookmarklevel]%
14719 }
14720 \newcommand{\subpdfbookmark}{%
14721   \@tempcnta\Hy@currentbookmarklevel
14722   \Hy@StepCount\@tempcnta
14723   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14724 }
14725 \newcommand{\belowpdfbookmark}[2]{%
14726   \@tempcnta\Hy@currentbookmarklevel
14727   \Hy@StepCount\@tempcnta

```

```

14728 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14729 \advance\@tempcnta by -1 %
14730 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14731 }

```

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.

```

14732 \renewcommand\pdfbookmark[3][0]{%
14733   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
14734   \hyper@anchorstart{#3.#1}\hyper@anchorend
14735 }
14736 \def\BOOKMARK{%
14737   \@ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14738 }
14739 \def\@BOOKMARK[#1]{%
14740   \@ifnextchar{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
14741 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

#### 49.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

14742 \RequirePackage{rerunfilecheck}[2009/12/10]
14743 \def\Hy@OutlineRerunCheck{%
14744   \RerunFileCheck{\jobname.out}{%
14745     \immediate\closeout\@outlinefile
14746   }{%
14747     Rerun to get outlines right\MessageBreak
14748     or use package ‘bookmark’%
14749   }%
14750 }

```

#### 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.

```

14751 <*vtex>
14752 \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.

```

14753 \begingroup
14754 \catcode'\=12 %
14755 \ifnum\Hy@VTeXversion<650 %
14756   \catcode'\=12 %
14757   \gdef\hv@pdf@char#1#2#3{%
14758     \char
14759     \ifcase'#1#2#3 %
14760       "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14761       \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14762       \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%

```

```

14763 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14764 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14765 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14766 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14767 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14768 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14769 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14770 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14771 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14772 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14773 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14774 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14775 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14776 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14777 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14778 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14779 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14780 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14781 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14782 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14783 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14784 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14785 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14786 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14787 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14788 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14789 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14790 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14791 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14792 \fi
14793 }%
14794 \else
14795 \gdef\hv@pdf@char{\char'}%
14796 \fi
14797 \endgroup

```

\@@BOOKMARK

```

14798 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14799 \expandafter\edef\csname @count@#3\endcsname{%
14800 \the\@serial@counter
14801 }%
14802 \edef\@mycount{\the\@serial@counter}%
14803 \Hy@StepCount\@serial@counter
14804 \edef\@parcount{%
14805 \expandafter\ifx\csname @count@#5\endcsname\relax
14806 0%
14807 \else
14808 \csname @count@#5\endcsname
14809 \fi
14810 }%
14811 \immediate\special{%
14812 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14813 s=\ifx#2-c\else o\fi,t=#4%
14814 }%
14815 }%

```

\ReadBookmarks

```

14816 \def\ReadBookmarks{%
14817   \begingroup
14818   \def\0{\hv@pdf@char 0}%
14819   \def\1{\hv@pdf@char 1}%
14820   \def\2{\hv@pdf@char 2}%
14821   \def\3{\hv@pdf@char 3}%
14822   \def\({}%
14823   \def\)}%
14824   \def\do##1{%
14825     \ifnum\catcode'##1=\active
14826       \@makeother##1%
14827     \else
14828       \ifnum\catcode'##1=6 %
14829         \@makeother##1%
14830       \fi
14831     \fi
14832   }%
14833   \dospecials
14834   \Hy@safe@activetrue
14835   \InputIfFileExists{\jobname.out}{-}{-}%
14836 \endgroup
14837 \ifx\WriteBookmarks\relax
14838 \else
14839   \if@files
14840     \newwrite\@outlinefile
14841     \Hy@OutlineRerunCheck
14842     \immediate\openout\@outlinefile=\jobname.out\relax
14843     \ifHy@typexml
14844       \immediate\write\@outlinefile{<relaxxml>\relax}%
14845     \fi
14846   \fi
14847 \fi
14848 }

14849 </vtex>
14850 (*!vtex)
14851 \def\ReadBookmarks{%
14852   \pdf@ifdraftmode{-}{-}%
14853   \begingroup
14854   \def\do##1{%
14855     \ifnum\catcode'##1=\active
14856       \@makeother##1%
14857     \else
14858       \ifnum\catcode'##1=6 %
14859         \@makeother##1%
14860       \fi
14861     \fi
14862   }%
14863   \dospecials
14864   \Hy@safe@activetrue
14865   \escapechar='\'%
14866   \def\@@BOOKMARK[#1][#2]##3##4##5{%
14867     \calc@bm@number{##5}%
14868   }%
14869   \InputIfFileExists{\jobname.out}{-}{-}%
14870   \ifx\WriteBookmarks\relax
14871     \global\let\WriteBookmarks\relax
14872   \fi

```

```

14873 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14874 \def\Hy@temp{##4}%
14875 (*pdfTex)
14876 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14877 \Hy@OutlineName{}\Hy@pstringName{%
14878 ##2\check@bm@number{##3}%
14879 }{%
14880 \expandafter\strip@prefix\meaning\Hy@temp
14881 }%
14882 \pdfTex)
14883 (*pdfmark)
14884 \pdfmark{%
14885 pdfmark=/OUT,%
14886 Count={##2\check@bm@number{##3}},%
14887 Dest={##3},%
14888 Title=\expandafter\strip@prefix\meaning\Hy@temp
14889 }%
14890 \pdfmark)
14891 (*dvipdfm|xetex)
14892 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14893 \@pdfm@mark{%
14894 outline \ifHy@DvipdfmxOutlineOpen
14895 [%
14896 \ifnum##21>\z@
14897 \else
14898 -%
14899 \fi
14900 ] %
14901 \fi
14902 ##1<<%
14903 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14904 /A<<%
14905 /S/GoTo%
14906 /D(\Hy@pstringName)%
14907 >>%
14908 >>%
14909 }%
14910 \dvipdfm|xetex)
14911 }%
14912 \begingroup
14913 \def\WriteBookmarks{0}%
14914 \InputIfFileExists{jobname.out}{-}{-}%
14915 \endgroup
14916 %{\escapechar\m@ne\InputIfFileExists{jobname.out}{-}{-}}%
14917 \endgroup
14918 }%
14919 \ifx\WriteBookmarks\relax
14920 \else
14921 \if@files
14922 \newwrite\@outlinefile
14923 \Hy@OutlineRerunCheck
14924 \immediate\openout\@outlinefile=jobname.out\relax
14925 \ifHy@typexml
14926 \immediate\write\@outlinefile{<relaxxml>\relax}%
14927 \fi
14928 \fi
14929 \fi

```

```

14930 }
14931 \<*pdfTeX>
14932 \def\Hy@OutlineName#1#2#3#4{%
14933   \pdfoutline goto name{#2}count#3{#4}%
14934 }
14935 \</pdfTeX>
14936 \def\check@bm@number#1{%
14937   \expandafter\ifx\csname B_#1\endcsname\relax
14938     0%
14939   \else
14940     \csname B_#1\endcsname
14941   \fi
14942 }
14943 \def\calc@bm@number#1{%
14944   \@tempcnta=\check@bm@number{#1}\relax
14945   \advance\@tempcnta by 1 %
14946   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14947 }
14948 \</!vTeX>

14949 \ifHy@implicit
14950 \else
14951   \expandafter\endinput
14952 \fi

14953 \</outlines>
14954 \<*outlines | hypertex>

14955 \newlength\Hy@SectionHShift
14956 \def\Hy@SectionAnchorHref#1{%
14957   \ifx\protect\@typeset@protect
14958     \Hy@@SectionAnchor{#1}%
14959   \fi
14960 }
14961 \DeclareRobustCommand*{\Hy@@SectionAnchor}[1]{%
14962   \leavevmode
14963   \hbox to 0pt{%
14964     \kern-\Hy@SectionHShift
14965     \Hy@raisedlink{%
14966       \hyper@anchorstart{#1}\hyper@anchorend
14967     }%
14968     \hss
14969   }%
14970 }
14971 \let\H@old@ssect\@ssect
14972 \def\@ssect#1#2#3#4#5{%
14973   \Hy@MakeCurrentHrefAuto{section*}%
14974   \setlength{\Hy@SectionHShift}{#1}%
14975   \begingroup
14976     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14977     \toks\tw@\expandafter{%
14978       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14979       #5%
14980     }%
14981   \edef\x{\endgroup
14982     \the\toks@\the\toks\tw@}%
14983   }\x
14984 }
14985 \let\H@old@schapter\@schapter

```

```

14986 \def\@schapter#1{%
14987   \begingroup
14988     \let\@mkboth\@gobbletwo
14989     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14990     \Hy@raisedlink{%
14991       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14992     }%
14993   \endgroup
14994   \H@old@chapter{#1}%
14995 }

```

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:

```

14996 \ltx@ifundefined{@chapter}{-}{%
14997   \let\Hy@org@chapter\@chapter
14998   \def\@chapter{%
14999     \def\Hy@next{%
15000       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15001       \Hy@raisedlink{%
15002         \hyper@anchorstart{\@currentHref}\hyper@anchorend
15003       }%
15004     }%
15005     \ifnum\c@secnumdepth>\m@ne
15006       \ltx@ifundefined{if@mainmatter}%
15007       \iftrue{\csname if@mainmatter\endcsname}%
15008       \let\Hy@next\relax
15009     \fi
15010     \fi
15011     \Hy@next
15012     \Hy@org@chapter
15013   }%
15014 }

15015 \let\H@old@part\@part
15016 \begingroup\expandafter\expandafter\expandafter\endgroup
15017 \expandafter\ifx\csname chapter\endcsname\relax
15018   \let\Hy@secnum@part\z@
15019 \else
15020   \let\Hy@secnum@part\m@ne
15021 \fi
15022 \def\@part{%
15023   \ifnum\Hy@secnum@part>\c@secnumdepth
15024     \phantomsection
15025     \fi
15026   \H@old@part
15027 }

15028 \let\H@old@spart\@spart
15029 \def\@spart#1{%
15030   \Hy@MakeCurrentHrefAuto{part*}%
15031   \Hy@raisedlink{%
15032     \hyper@anchorstart{\@currentHref}\hyper@anchorend
15033   }%
15034   \H@old@spart{#1}%
15035 }

15036 \let\H@old@sect\@sect
15037 \def\@sect#1#2#3#4#5#6[#7]#8{%
15038   \ifnum #2>\c@secnumdepth

```

```

15039 \expandafter\@firstoftwo
15040 \else
15041 \expandafter\@secondoftwo
15042 \fi
15043 {%
15044 \Hy@MakeCurrentHrefAuto{section*}%
15045 \setlength{\Hy@SectionHShift}{#3}%
15046 \begingroup
15047 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
15048 \toks\tw@\expandafter{%
15049 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
15050 #8%
15051 }%
15052 \edef\x{\endgroup
15053 \the\toks@\the\toks\tw@}%
15054 }\x
15055 }{%
15056 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
15057 }%
15058 }

15059 </outlines | hypertex>
15060 <*outlines>

15061 \expandafter\def\csname Parent-4\endcsname{}
15062 \expandafter\def\csname Parent-3\endcsname{}
15063 \expandafter\def\csname Parent-2\endcsname{}
15064 \expandafter\def\csname Parent-1\endcsname{}
15065 \expandafter\def\csname Parent0\endcsname{}
15066 \expandafter\def\csname Parent1\endcsname{}
15067 \expandafter\def\csname Parent2\endcsname{}
15068 \expandafter\def\csname Parent3\endcsname{}
15069 \expandafter\def\csname Parent4\endcsname{}

15070 </outlines>

```

## 50 Compatibility with koma-script classes

```

15071 <*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.

```

15072 \def\Hy@tempa{%
15073 \def\@addchap[##1]##2{%
15074 \typeout{##2}%
15075 \if@twoside
15076 \@mkboth{##1}{}%
15077 \else
15078 \@mkboth{}{##1}%
15079 \fi
15080 \addtocontents{lof}{\protect\addvspace{10\p@}}%
15081 \addtocontents{lot}{\protect\addvspace{10\p@}}%
15082 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15083 \Hy@raisedlink{%
15084 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15085 }%
15086 \if@twocolumn

```



```

15087 \topnewpage[\@makeschapterhead{##2}]%
15088 \else
15089 \@makeschapterhead{##2}%
15090 \@afterheading
15091 \fi
15092 \addcontentsline{toc}{chapter}{##1}%
15093 }%
15094 }
15095 \@ifclassloaded{scrbook}{%
15096 \@ifclasslater{scrbook}{2001/01/01}{%
15097 \let\Hy@tempa\@empty
15098 }{}%
15099 }{%
15100 \@ifclassloaded{scrreprt}{%
15101 \@ifclasslater{scrreprt}{2001/01/01}{%
15102 \let\Hy@tempa\@empty
15103 }{}%
15104 }{%
15105 \let\Hy@tempa\@empty
15106 }%
15107 }%
15108 \Hy@tempa
15109 </outlines | hypertext>

```

## 51 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 51.1 PD1 encoding

```

15110 <*pd1enc>
15111 \DeclareFontEncoding{PD1}{}{}

Accents
15112 \DeclareTextAccent{'}{PD1}{\textasciigrave}
15113 \DeclareTextAccent{'}{PD1}{\textacute}
15114 \DeclareTextAccent{^}{PD1}{\textasciicircum}
15115 \DeclareTextAccent{~}{PD1}{\texttilde}
15116 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
15117 \DeclareTextAccent{r}{PD1}{\textstring}
15118 \DeclareTextAccent{v}{PD1}{\textasciicaron}
15119 \DeclareTextAccent{.}{PD1}{\textdotaccent}
15120 \DeclareTextAccent{c}{PD1}{\textcedilla}
15121 \DeclareTextAccent{=}{PD1}{\textasciimacron}
15122 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
15123 \DeclareTextAccent{d}{PD1}{\textdotbelow}
15124 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
15125 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textacute}
15126 \DeclareTextCompositeCommand{^}{PD1}{\@empty}{\textasciicircum}
15127 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
15128 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
15129 \DeclareTextCompositeCommand{r}{PD1}{\@empty}{\textstring}
15130 \DeclareTextCompositeCommand{v}{PD1}{\@empty}{\textasciicaron}
15131 \DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}
15132 \DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}
15133 \DeclareTextCompositeCommand{=}{PD1}{\@empty}{\textasciimacron}

```

```

15134 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
15135 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
15136 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textasciigrave}
15137 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textacute}
15138 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}
15139 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
15140 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
15141 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
15142 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
15143 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
15144 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
15145 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
15146 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
15147 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
15148 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
15149 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
15150 \DeclareTextCommand{\newtie}{PD1}[1]{%
15151   \TextSymbolUnavailable{\newtie{#1}}#1%
15152 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

15153 % U+0009 (CHARACTER TABULATION)
15154 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
15155 % U+000A (LINE FEED)
15156 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
15157 % U+000D (CARRIAGE RETURN)
15158 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

15159 % U+02D8 BREVE; breve
15160 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
15161 % U+02C7 CARON; caron
15162 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
15163 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
15164 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
15165 % U+02D9 DOT ABOVE; dotaccent
15166 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
15167 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
15168 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
15169 % U+02DB OGONEK; ogonek
15170 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
15171 % U+02DA RING ABOVE; ring
15172 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
15173 % U+02DC SMALL TILDE; ilde, *tilde
15174 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

15175 % U+0022 QUOTATION MARK; quotedbl
15176 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022
15177 % U+0023 NUMBER SIGN; numbersign
15178 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
15179 % U+0024 DOLLAR SIGN; dollar
15180 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
15181 % U+0025 PERCENT SIGN; percent
15182 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
15183 % U+0026 AMPERSAND; ampersand
15184 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

```

\047: U+0027 APOSTROPHE; quotesingle  
  
 15185 % U+0028 LEFT PARENTHESIS; parenleft  
 15186 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028  
 15187 % U+0029 RIGHT PARENTHESIS; parenright  
 15188 \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  
 15189 % U+002E FULL STOP; period  
 15190 \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  
 15191 % U+003C LESS-THAN SIGN; less  
 15192 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
  
 \075: U+003D EQUALS SIGN; equal  
 15193 % U+003E GREATER-THAN SIGN; greater  
 15194 \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  
 15195 % U+005C REVERSE SOLIDUS; backslash  
 15196 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 15197 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"  
 15198 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}  
  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 15199 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 15200 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 15201 % U+005F LOW LINE; underscore  
 15202 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 15203 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 15204 % U+0060 GRAVE ACCENT; grave  
 15205 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
  
 \141: U+0061 LATIN SMALL LETTER A; a  
  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 15206 % U+0069 LATIN SMALL LETTER I; i  
 15207 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
  
 \152: U+006A LATIN SMALL LETTER J; j  
  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 15208 % U+007B LEFT CURLY BRACKET; braceleft  
 15209 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 15210 % U+007C VERTICAL LINE; \*bar, verticalbar

15211 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
15212 % U+007D RIGHT CURLY BRACKET; braceright  
15213 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
15214 % U+007E TILDE; asciitilde  
15215 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
Slot \177 (0x7F) is undefined in PDFDocEncoding.  
15216 % U+2022 BULLET; bullet  
15217 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
15218 % U+2020 DAGGER; dagger  
15219 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
15220 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
15221 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
15222 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}  
15223 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
15224 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
15225 % U+2014 EM DASH; emdash  
15226 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
15227 % U+2013 EN DASH; endash  
15228 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
15229 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
15230 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
15231 % U+2044 FRACTION SLASH; fraction  
15232 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
15233 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
ingleft  
15234 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039  
15235 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
ingright  
15236 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A  
15237 % U+2212 MINUS SIGN; minus  
15238 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
15239 % U+2030 PER MILLE SIGN; perthousand  
15240 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
15241 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
15242 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
15243 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
15244 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
15245 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
15246 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
15247 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
15248 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
15249 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
15250 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
15251 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
15252 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
15253 % U+2122 TRADE MARK SIGN; trademark  
15254 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
15255 % U+FB01 LATIN SMALL LIGATURE FI; fi  
15256 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
15257 % U+FB02 LATIN SMALL LIGATURE FL; fl  
15258 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
15259 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
15260 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
15261 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
15262 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
15263 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
15264 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160

15265 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 15266 \DeclareTextCompositeCommand{"Y}{PD1}{\230}% U+0178  
 15267 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A  
 15268 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 15269 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
 15270 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 15271 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
 15272 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 15273 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
 15274 % U+0153 LATIN SMALL LIGATURE OE; oe  
 15275 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
 15276 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 15277 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
 15278 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 15279 \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.  
 15280 % U+20AC EURO SIGN; \*Euro, euro  
 15281 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
 15282 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 15283 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
 15284 % U+00A2 CENT SIGN; cent  
 15285 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
 15286 % U+00A3 POUND SIGN; sterling  
 15287 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
 15288 % U+00A4 CURRENCY SIGN; currency  
 15289 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
 15290 % U+00A5 YEN SIGN; yen  
 15291 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
 15292 % U+00A6 BROKEN BAR; brokenbar  
 15293 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
 15294 % U+00A7 SECTION SIGN; section  
 15295 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
 15296 % U+00A8 DIAERESIS; dieresis  
 15297 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
 15298 % U+00A9 COPYRIGHT SIGN; copyright  
 15299 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
 15300 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 15301 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 15302 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motleft  
 15303 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 15304 % U+00AC NOT SIGN; logicalnot  
 15305 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 15306 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
 No glyph \255 in PDFDocEncoding.  
 15307 % U+00AE REGISTERED SIGN; registered  
 15308 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 15309 % U+00AF MACRON; \*macron, overscore  
 15310 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 15311 % U+00B0 DEGREE SIGN; degree  
 15312 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 15313 % U+00B1 PLUS-MINUS SIGN; plusminus  
 15314 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 15315 % U+00B2 SUPERSCRIPT TWO; twosuperior  
 15316 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%\* U+00B2  
 15317 % U+00B3 SUPERSCRIPT THREE; threesuperior

15318 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%\* U+00B3  
15319 % U+00B4 ACUTE ACCENT; acute  
15320 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
15321 % U+00B5 MICRO SIGN; mu, mul  
15322 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
15323 % U+00B6 PILCROW SIGN; paragraph  
15324 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
15325 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15326 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
15327 % U+00B8 CEDILLA; cedilla  
15328 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
15329 % U+00B9 SUPERSCRIPT ONE; onesuperior  
15330 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%\* U+00B9  
15331 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
15332 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
15333 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
15334 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
15335 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
15336 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
15337 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
15338 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
15339 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15340 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
15341 % U+00BF INVERTED QUESTION MARK; questiondown  
15342 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
15343 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15344 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
15345 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15346 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
15347 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15348 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
15349 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15350 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
15351 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15352 \DeclareTextCompositeCommand{\\"}{PD1}{A}{\304}% U+00C4  
15353 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15354 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
15355 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15356 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
15357 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15358 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
15359 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15360 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
15361 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15362 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
15363 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15364 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
15365 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15366 \DeclareTextCompositeCommand{\\"}{PD1}{E}{\313}% U+00CB  
15367 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15368 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
15369 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15370 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
15371 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15372 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
15373 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis

15374 \DeclareTextCompositeCommand{"}{PD1}{I}{\317}% U+00CF  
15375 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15376 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
15377 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
15378 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15379 \DeclareTextCompositeCommand{~}{PD1}{N}{\321}% U+00D1  
15380 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15381 \DeclareTextCompositeCommand{'}{PD1}{O}{\322}% U+00D2  
15382 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15383 \DeclareTextCompositeCommand{'}{PD1}{O}{\323}% U+00D3  
15384 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15385 \DeclareTextCompositeCommand{^}{PD1}{O}{\324}% U+00D4  
15386 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15387 \DeclareTextCompositeCommand{~}{PD1}{O}{\325}% U+00D5  
15388 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15389 \DeclareTextCompositeCommand{"}{PD1}{O}{\326}% U+00D6  
15390 % U+00D7 MULTIPLICATION SIGN; multiply  
15391 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
15392 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15393 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
15394 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15395 \DeclareTextCompositeCommand{'}{PD1}{U}{\331}% U+00D9  
15396 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15397 \DeclareTextCompositeCommand{'}{PD1}{U}{\332}% U+00DA  
15398 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15399 \DeclareTextCompositeCommand{^}{PD1}{U}{\333}% U+00DB  
15400 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15401 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC  
15402 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15403 \DeclareTextCompositeCommand{'}{PD1}{Y}{\335}% U+00DD  
15404 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15405 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
15406 \DeclareTextCommand{\textThorn}{PD1}{\336}%\* U+00DE  
15407 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15408 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
15409 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15410 \DeclareTextCompositeCommand{'}{PD1}{a}{\340}% U+00E0  
15411 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15412 \DeclareTextCompositeCommand{'}{PD1}{a}{\341}% U+00E1  
15413 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15414 \DeclareTextCompositeCommand{^}{PD1}{a}{\342}% U+00E2  
15415 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15416 \DeclareTextCompositeCommand{~}{PD1}{a}{\343}% U+00E3  
15417 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15418 \DeclareTextCompositeCommand{"}{PD1}{a}{\344}% U+00E4  
15419 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15420 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
15421 % U+00E6 LATIN SMALL LETTER AE; ae  
15422 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
15423 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15424 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
15425 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15426 \DeclareTextCompositeCommand{'}{PD1}{e}{\350}% U+00E8  
15427 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15428 \DeclareTextCompositeCommand{'}{PD1}{e}{\351}% U+00E9  
15429 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15430 \DeclareTextCompositeCommand{^}{PD1}{e}{\352}% U+00EA

15431 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
 15432 \DeclareTextCompositeCommand{"}{PD1}{e}{\353}% U+00EB  
 15433 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
 15434 \DeclareTextCompositeCommand{"}{PD1}{i}{\354}% U+00EC  
 15435 \DeclareTextCompositeCommand{"}{PD1}{i}{\354}% U+00EC  
 15436 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
 15437 \DeclareTextCompositeCommand{"}{PD1}{i}{\355}% U+00ED  
 15438 \DeclareTextCompositeCommand{"}{PD1}{i}{\355}% U+00ED  
 15439 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
 15440 \DeclareTextCompositeCommand{"}{PD1}{i}{\356}% U+00EE  
 15441 \DeclareTextCompositeCommand{"}{PD1}{i}{\356}% U+00EE  
 15442 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
 15443 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF  
 15444 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF  
 15445 % U+00F0 LATIN SMALL LETTER ETH; eth  
 15446 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
 15447 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 15448 \DeclareTextCompositeCommand{"}{PD1}{n}{\361}% U+00F1  
 15449 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 15450 \DeclareTextCompositeCommand{"}{PD1}{o}{\362}% U+00F2  
 15451 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 15452 \DeclareTextCompositeCommand{"}{PD1}{o}{\363}% U+00F3  
 15453 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 15454 \DeclareTextCompositeCommand{"}{PD1}{o}{\364}% U+00F4  
 15455 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otile  
 15456 \DeclareTextCompositeCommand{"}{PD1}{o}{\365}% U+00F5  
 15457 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 15458 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6  
 15459 % U+00F7 DIVISION SIGN; divide  
 15460 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
 15461 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 15462 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
 15463 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 15464 \DeclareTextCompositeCommand{"}{PD1}{u}{\371}% U+00F9  
 15465 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 15466 \DeclareTextCompositeCommand{"}{PD1}{u}{\372}% U+00FA  
 15467 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 15468 \DeclareTextCompositeCommand{"}{PD1}{u}{\373}% U+00FB  
 15469 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 15470 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC  
 15471 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 15472 \DeclareTextCompositeCommand{"}{PD1}{y}{\375}% U+00FD  
 15473 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)  
 15474 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
 15475 \DeclareTextCommand{\textthorn}{PD1}{\376}%\* U+00FE  
 15476 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 15477 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF  
 15478 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A

Glyphs that consist of several characters.

15479 \DeclareTextCommand{\SS}{PD1}{SS}%  
 15480 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%

Aliases (german.sty)

15481 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%  
 15482 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%  
 15483 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%  
 15484 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%  
 15485 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}%



```

15486 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}%
15487 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%
15488 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%
Aliases (math names)
15489 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15490 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15491 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15492 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15493 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15494 \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).

```

15495 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15496 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15497 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15498 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
15499 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15500 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15501 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15502 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15503 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15504 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15505 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
15506 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15507 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15508 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
15509 \pdlenc)

```

## 51.2 PU encoding

```

15510 \*puenc)
15511 \DeclareFontEncoding{PU}{-}{-}

```

### 51.2.1 NFSS2 accents

```

15512 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15513 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
15514 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15515 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15516 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15517 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15518 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
15519 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15520 % U+0304 COMBINING MACRON; macroncmb
15521 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15522 % U+0306 COMBINING BREVE; brevecmb
15523 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15524 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15525 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15526 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15527 % U+0308 COMBINING DIAERESIS; dieresiscmb
15528 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15529 % U+030A COMBINING RING ABOVE; ringcmb
15530 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
15531 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
15532 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
15533 % U+030C COMBINING CARON; caroncmb

```

```

15534 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
15535 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15536 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
15537 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
15538 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15539 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
15540 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
15541 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
15542 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-
    laut (tipa)
15543 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
15544 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)
15545 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325
15546 % U+0327 COMBINING CEDILLA; cedillacmb
15547 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
15548 % U+0328 COMBINING OGONEK; ogonekcmb
15549 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
15550 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;
15551 % \textsubcircum (tipa)
15552 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
15553 % U+032E COMBINING BREVE BELOW; brevebelowcmb
15554 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E
15555 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)
15556 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330
15557 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
15558 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
15559 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
    blecmb
15560 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
15561 % U+20DD COMBINING ENCLOSING CIRCLE
15562 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

```

Double accents.

```

15563 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304
15564 \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.

```

15565 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}%
15566 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textacute}%
15567 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}%
15568 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%
15569 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%
15570 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textstring}%
15571 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%
15572 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%
15573 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%
15574 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%
15575 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%
15576 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%
15577 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%
15578 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%
15579 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\83\021}% U+0311
15580 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\83\044}% U+0324
15581 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textsubring}%
15582 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcirc-
    low}%
15583 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\83\056}% U+032E
15584 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\textsubtilde}%

```

```

15585 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%
15586 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%
15587 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%
15588 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%
15589 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%
15590 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\{\ \83\001\83\004\}}% U+0301 U
15591 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\{\ \83\000\83\004\}}% U+0300 U
15592 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}%
15593 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%
15594 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}%
15595 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%
15596 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%
15597 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%
15598 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%
15599 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%
15600 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%
15601 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%
15602 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%
15603 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%
15604 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%
15605 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%
15606 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\{\ \83\021\}}% U+0311
15607 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\{\ \83\044\}}% U+0324
15608 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}%
15609 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%
15610 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\{\ \83\056\}}% U+032E
15611 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildelow}%
15612 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%
15613 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%
15614 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%
15615 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%
15616 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%
15617 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\{\ \83\001\83\004\}}% U+0301 U+0304
15618 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\{\ \83\000\83\004\}}% U+0300 U+0304

```

Accents for capitals (see encoding TS1)

```

15619 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}%
15620 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}%
15621 \DeclareTextCommand{\capitalgrave}{PU}[1]{\{'{#1}}%
15622 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}%
15623 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}%
15624 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}%
15625 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\">{#1}}%
15626 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%
15627 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}%
15628 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}%
15629 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}%
15630 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}%
15631 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}%
15632 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}%
15633 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%

```

### 51.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

15634 % U+0009 (CHARACTER TABULATION)
15635 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
15636 % U+000A (LINE FEED)

```

15637 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A  
 15638 % U+000D (CARRIAGE RETURN)  
 15639 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D  
 \80\040: U+0020 SPACE; space, spacehackarabic  
 \80\041: U+0021 EXCLAMATION MARK; exclam  
 15640 % U+0022 QUOTATION MARK; quotedbl  
 15641 \DeclareTextCommand{\textquotedbl}{PU}{"}% \80\042 U+0022  
 15642 % U+0023 NUMBER SIGN; numbersign  
 15643 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023  
 15644 % U+0024 DOLLAR SIGN; dollar  
 15645 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024  
 15646 %\* \textdollar -> \mathdollar  
 15647 %\* \textdollar -> \EyesDollar (marvosym)  
 15648 % U+0025 PERCENT SIGN; percent  
 15649 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025  
 15650 % U+0026 AMPERSAND; ampersand  
 15651 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
 15652 %\* \textampersand -> \binampersand (stmaryrd)  
 15653 %\* \textampersand -> \with (cml)  
 15654 % U+0027 APOSTROPHE; quotesingle  
 15655 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
 15656 % U+0028 LEFT PARENTHESIS; parenleft  
 15657 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
 15658 % U+0029 RIGHT PARENTHESIS; parenright  
 15659 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
 15660 % U+002A ASTERISK; asterisk; (?)  
 15661 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A  
 15662 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)  
 15663 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%\* U+002B  
 15664 % U+002C COMMA; comma; \MVComma (marvosym)  
 15665 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%\* U+002C  
 15666 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)  
 15667 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%\* U+002D  
 15668 % U+002E FULL STOP; period; \MVPeriod (marvosym)  
 15669 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%\* U+002E  
 15670 % U+002F SOLIDUS; slash; \MVDivision (marvosym)  
 15671 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%\* U+002F  
 15672 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)  
 15673 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%\* U+0030  
 15674 % U+0031 DIGIT ONE; one; \MVOne (marvosym)  
 15675 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%\* U+0031  
 15676 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)  
 15677 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%\* U+0032  
 15678 % U+0033 DIGIT THREE; three; \MVThree (marvosym)  
 15679 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%\* U+0033  
 15680 % U+0034 DIGIT FOUR; four; \MVFfour (marvosym)  
 15681 \DeclareTextCommand{\textMVFfour}{PU}{\80\064}%\* U+0034  
 15682 % U+0035 DIGIT FIVE; five; \MVFfive (marvosym)  
 15683 \DeclareTextCommand{\textMVFfive}{PU}{\80\065}%\* U+0035  
 15684 % U+0036 DIGIT SIX; six; \MVSix (marvosym)  
 15685 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%\* U+0036  
 15686 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)  
 15687 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%\* U+0037  
 15688 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)  
 15689 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%\* U+0038  
 15690 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)  
 15691 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%\* U+0039

$\backslash 80\backslash 072$ : U+003A COLON; colon  
 $\backslash 80\backslash 073$ : U+003B SEMICOLON; semicolon  
15692 % U+003C LESS-THAN SIGN; less  
15693  $\backslash \text{DeclareTextCommand}\{\backslash \text{textless}\}\{\text{PU}\}\{<\}\%$   $\backslash 80\backslash 074$  U+003C  
 $\backslash 80\backslash 075$ : U+003D EQUALS SIGN; equal  
15694 % U+003E GREATER-THAN SIGN; greater  
15695  $\backslash \text{DeclareTextCommand}\{\backslash \text{textgreater}\}\{\text{PU}\}\{>\}\%$   $\backslash 80\backslash 076$  U+003E  
 $\backslash 80\backslash 077$ : U+003F QUESTION MARK; question  
15696 % U+0040 COMMERCIAL AT; at;  $\backslash \text{MVAt}$  (marvosym)  
15697  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVAt}\}\{\text{PU}\}\{\backslash 80\backslash 100\}\%$  U+0040  
 $\backslash 80\backslash 101$ : U+0041 LATIN CAPITAL LETTER A; A  
...  
 $\backslash 80\backslash 132$ : U+005A LATIN CAPITAL LETTER Z; Z  
 $\backslash 80\backslash 133$ : U+005B LEFT SQUARE BRACKET; bracketleft  
15698 % U+005C REVERSE SOLIDUS; backslash  
15699  $\backslash \text{DeclareTextCommand}\{\backslash \text{textbackslash}\}\{\text{PU}\}\{\backslash 80\backslash 134\}\%$  U+005C  
 $\backslash 80\backslash 135$ : U+005D RIGHT SQUARE BRACKET; bracketright  
15700 % U+005E CIRCUMFLEX ACCENT; asciicircum  
15701  $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciicircum}\}\{\text{PU}\}\{\backslash 80\backslash 136\}\%$  U+005E  
15702 % U+005F LOW LINE; underscore  
15703  $\backslash \text{DeclareTextCommand}\{\backslash \text{textunderscore}\}\{\text{PU}\}\{\backslash 80\backslash 137\}\%$  U+005F  
15704 %\*  $\backslash \text{textunderscore} \rightarrow \backslash \text{mathunderscore}$  (LaTeX)  
15705 % U+0060 GRAVE ACCENT; grave  
15706  $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciigrave}\}\{\text{PU}\}\{\backslash 80\backslash 140\}\%$  U+0060  
 $\backslash 80\backslash 141$ : U+0061 LATIN SMALL LETTER A; a  
...  
 $\backslash 80\backslash 150$ : U+0068 LATIN SMALL LETTER H; h  
15707 % U+0069 LATIN SMALL LETTER I; i  
15708  $\backslash \text{DeclareTextCompositeCommand}\{\backslash .\}\{\text{PU}\}\{\text{i}\}\{\text{i}\}\%$   $\backslash 80\backslash 151$  U+0069  
15709  $\backslash \text{DeclareTextCompositeCommand}\{\backslash .\}\{\text{PU}\}\{\text{i}\}\{\text{i}\}\%$   $\backslash 80\backslash 151$  U+0069  
 $\backslash 80\backslash 152$ : U+006A LATIN SMALL LETTER J; j  
...  
 $\backslash 80\backslash 172$ : U+007A LATIN SMALL LETTER Z; z  
15710 % U+007B LEFT CURLY BRACKET; braceleft  
15711  $\backslash \text{DeclareTextCommand}\{\backslash \text{textbraceleft}\}\{\text{PU}\}\{\backslash 80\backslash 173\}\%$  U+007B  
15712 % U+007C VERTICAL LINE; \*bar, verticalbar  
15713  $\backslash \text{DeclareTextCommand}\{\backslash \text{textbar}\}\{\text{PU}\}\{\text{|}\}\%$   $\backslash 80\backslash 174$  U+007C  
15714 %\*  $\backslash \text{textbar} \rightarrow \backslash \text{textvertline}$  (tipa)  
15715 % U+007D RIGHT CURLY BRACKET; braceright  
15716  $\backslash \text{DeclareTextCommand}\{\backslash \text{textbraceright}\}\{\text{PU}\}\{\backslash 80\backslash 175\}\%$  U+007D  
15717 % U+007E TILDE; asciitilde  
15718  $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciitilde}\}\{\text{PU}\}\{\backslash 80\backslash 176\}\%$  U+007E

### 51.2.3 Latin-1 Supplement: U+0080 to U+00FF

$\backslash 80\backslash 240$ : U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace  
15719 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
15720  $\backslash \text{DeclareTextCommand}\{\backslash \text{textexclamdown}\}\{\text{PU}\}\{\backslash 80\backslash 241\}\%$  U+00A1  
15721 % U+00A2 CENT SIGN; cent  
15722  $\backslash \text{DeclareTextCommand}\{\backslash \text{textcent}\}\{\text{PU}\}\{\backslash 80\backslash 242\}\%$  U+00A2  
15723 % U+00A3 POUND SIGN; sterling  
15724  $\backslash \text{DeclareTextCommand}\{\backslash \text{textsterling}\}\{\text{PU}\}\{\backslash 80\backslash 243\}\%$  U+00A3  
15725 %\*  $\backslash \text{textsterling} \rightarrow \backslash \text{mathsterling}$  (LaTeX)

15726 %\* \textsterling -> \pounds (LaTeX)  
 15727 % U+00A4 CURRENCY SIGN; currency  
 15728 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 15729 % U+00A5 YEN SIGN; yen  
 15730 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 15731 % U+00A6 BROKEN BAR; brokenbar  
 15732 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 15733 %\* \textbrokenbar -> \brokenvert (wasysym)  
 15734 % U+00A7 SECTION SIGN; section  
 15735 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 15736 %\* \textsection -> \mathsection (LaTeX)  
 15737 %\* \textsection -> \S (LaTeX)  
 15738 % U+00A8 DIAERESIS; dieresis  
 15739 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 15740 % U+00A9 COPYRIGHT SIGN; copyright  
 15741 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%\* U+00A9  
 15742 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 15743 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 15744 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motleft  
 15745 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 15746 % U+00AC NOT SIGN; logicalnot  
 15747 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 15748 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sftthyphen, softthyphen  
 15749 % U+00AE REGISTERED SIGN; registered  
 15750 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 15751 % U+00AF MACRON; \*macron, overscore  
 15752 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 15753 % U+00B0 DEGREE SIGN; degree  
 15754 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 15755 % U+00B1 PLUS-MINUS SIGN; plusminus  
 15756 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 15757 % U+00B2 SUPERSCRIPT TWO; twosuperior  
 15758 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%\* U+00B2  
 15759 % U+00B3 SUPERSCRIPT THREE; threesuperior  
 15760 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%\* U+00B3  
 15761 % U+00B4 ACUTE ACCENT; acute  
 15762 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
 15763 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
 15764 % U+00B5 MICRO SIGN; mu, mu1  
 15765 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
 15766 % U+00B6 PILCROW SIGN; paragraph  
 15767 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
 15768 %\* \textparagraph -> \mathparagraph (LaTeX)  
 15769 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 15770 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
 15771 %\* \textperiodcentered -> \MultiplicationDot (marvosym)  
 15772 %\* \textperiodcentered -> \Squaredot (marvosym)  
 15773 % U+00B8 CEDILLA; cedilla  
 15774 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
 15775 % U+00B9 SUPERSCRIPT ONE; onesuperior  
 15776 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%\* U+00B9  
 15777 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 15778 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
 15779 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motright

15780 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
15781 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
15782 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
15783 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
15784 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
15785 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15786 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
15787 % U+00BF INVERTED QUESTION MARK; questiondown  
15788 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
15789 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15790 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
15791 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15792 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
15793 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15794 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
15795 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15796 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
15797 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15798 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
15799 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15800 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
15801 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15802 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
15803 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15804 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
15805 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15806 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
15807 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15808 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
15809 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15810 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
15811 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15812 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
15813 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15814 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
15815 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15816 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
15817 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15818 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
15819 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15820 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
15821 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15822 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
15823 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15824 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
15825 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15826 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
15827 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15828 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
15829 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15830 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
15831 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15832 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
15833 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15834 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
15835 % U+00D7 MULTIPLICATION SIGN; multiply  
15836 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7

15837 %\* \textmultiply -> \vartimes (stmaryrd)  
15838 %\* \textmultiply -> \MVMultiplication (marvosym)  
15839 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15840 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
15841 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15842 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9  
15843 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15844 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
15845 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15846 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
15847 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15848 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
15849 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15850 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
15851 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15852 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
15853 \DeclareTextCommand{\textThorn}{PU}{\80\336}%\* U+00DE  
15854 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15855 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
15856 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15857 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0  
15858 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15859 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
15860 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15861 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
15862 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15863 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
15864 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15865 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
15866 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15867 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
15868 % U+00E6 LATIN SMALL LETTER AE; ae  
15869 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
15870 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15871 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
15872 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15873 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
15874 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15875 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
15876 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15877 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
15878 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15879 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
15880 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15881 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
15882 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
15883 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15884 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15885 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15886 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15887 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15888 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15889 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15890 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15891 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15892 % U+00F0 LATIN SMALL LETTER ETH; eth  
15893 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0



15894 %\* \dh -> \eth (wsuipa, phonetic)  
 15895 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 15896 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
 15897 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 15898 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2  
 15899 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 15900 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 15901 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 15902 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
 15903 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 15904 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 15905 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 15906 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
 15907 % U+00F7 DIVISION SIGN; divide  
 15908 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 15909 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 15910 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 15911 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 15912 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9  
 15913 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 15914 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 15915 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 15916 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
 15917 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 15918 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 15919 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 15920 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 15921 % U+00FE LATIN SMALL LETTER THORN; thorn;  
 15922 % \th, \thorn (wasysym), \textthorn (tipa)  
 15923 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 15924 \DeclareTextCommand{\textthorn}{PU}{\80\376}%\* U+00FE  
 15925 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 15926 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 51.2.4 Latin Extended-A: U+0080 to U+017F

15927 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 15928 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 15929 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 15930 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 15931 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 15932 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 15933 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 15934 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 15935 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 15936 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 15937 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 15938 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
 15939 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 15940 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
 15941 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 15942 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
 15943 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 15944 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
 15945 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
 15946 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109

15947 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
15948 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
15949 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
15950 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
15951 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
15952 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
15953 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
15954 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
15955 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
15956 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
15957 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
15958 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
15959 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
15960 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
15961 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;  
15962 % \textcrd (tipa)  
15963 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
15964 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111  
15965 %\* \textcrd -> \crossd (wsuipa)  
15966 % An alternate glyph with the stroke through the bowl:  
15967 %\* \textcrd -> \textbard (tipa)  
15968 %\* \textcrd -> \bard (wsuipa)  
15969 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
15970 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
15971 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
15972 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
15973 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
15974 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
15975 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
15976 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
15977 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
15978 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
15979 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
15980 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
15981 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
15982 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
15983 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
15984 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
15985 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
15986 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
15987 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
15988 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
15989 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
15990 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
15991 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
15992 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
15993 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
15994 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
15995 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
15996 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
15997 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
15998 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
15999 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
16000 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121

16001 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
16002 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
16003 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
16004 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
16005 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
16006 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
16007 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
16008 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
16009 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
16010 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
16011 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)  
16012 \DeclareTextCommand{\textthbar}{PU}{\81\047}%\* U+0127  
16013 %\* \textthbar -> \textcrh (tipa)  
16014 %\* \textthbar -> \crossh (wsuipa)  
16015 %\* \textthbar -> \planck (phonetic)  
16016 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
16017 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
16018 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
16019 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
16020 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129  
16021 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
16022 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
16023 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
16024 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
16025 \DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B  
16026 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
16027 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
16028 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
16029 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
16030 \DeclareTextCompositeCommand{\u}{PU}{\i}{\81\055}% U+012D  
16031 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
16032 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
16033 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
16034 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
16035 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F  
16036 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
16037 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
16038 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
16039 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
16040 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
16041 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
16042 % U+0133 LATIN SMALL LIGATURE IJ; ij  
16043 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
16044 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
16045 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
16046 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
16047 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
16048 \DeclareTextCompositeCommand{\^}{PU}{\j}{\81\065}% U+0135  
16049 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
16050 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
16051 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
16052 \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`.

16053 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
16054 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
16055 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
16056 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
16057 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
16058 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
16059 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
16060 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
16061 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
16062 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
16063 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
16064 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
16065 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
16066 \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.

16067 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
16068 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
16069 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
16070 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
16071 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
16072 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
16073 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
16074 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
16075 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
16076 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
16077 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
16078 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
16079 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
16080 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
16081 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
16082 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
16083 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
16084 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
16085 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
16086 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
16087 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
16088 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
16089 % U+014A LATIN CAPITAL LETTER ENG; Eng  
16090 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
16091 % U+014B LATIN SMALL LETTER ENG; eng  
16092 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
16093 %\* \ng -> \eng (wsuipa)  
16094 %\* \ng -> \engma (phonetic)  
16095 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
16096 \DeclareTextCompositeCommand{=} {PU}{O}{\81\114}% U+014C  
16097 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
16098 \DeclareTextCompositeCommand{=} {PU}{o}{\81\115}% U+014D  
16099 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
16100 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
16101 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
16102 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F

16103 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut  
16104 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
16105 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut  
16106 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
16107 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
16108 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
16109 % U+0153 LATIN SMALL LIGATURE OE; oe  
16110 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
16111 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
16112 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
16113 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
16114 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
16115 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent  
16116 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
16117 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
16118 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
16119 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
16120 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
16121 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
16122 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
16123 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
16124 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
16125 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
16126 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
16127 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
16128 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
16129 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
16130 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
16131 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
16132 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
16133 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
16134 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
16135 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
16136 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
16137 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
16138 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
16139 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
16140 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
16141 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
16142 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
16143 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
16144 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
16145 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
16146 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
16147 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
16148 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
16149 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
16150 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
16151 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
16152 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
16153 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
16154 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
16155 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron

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16156 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
16157 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
16158 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
16159 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
16160 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
16161 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
16162 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
16163 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
16164 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
16165 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
16166 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
16167 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udbla-
cute, Uhungarumlaut
16168 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
16169 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udbla-
cute, uhungarumlaut
16170 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
16171 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
16172 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
16173 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
16174 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
16175 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
16176 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
16177 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
16178 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
16179 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
16180 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
16181 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
16182 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
16183 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
16184 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
16185 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
16186 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
16187 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
16188 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
16189 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
16190 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
16191 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
16192 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
16193 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
16194 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
16195 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
16196 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
16197 % U+017F LATIN SMALL LETTER LONG S; longs, slong
16198 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

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### 51.2.5 Latin Extended-B: U+0180 to U+024F

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16199 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)
16200 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180
16201 %* \textcrb -> \crossb (wsuipa)
16202 % An alternate glyph with the stroke through the bowl:
16203 %* \textcrb -> \textbarb (tipa)
16204 %* \textcrb -> \barb (wsuipa)
16205 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (pho-
netic)
16206 \DeclareTextCommand{\texthausab}{PU}{\81\201}%* U+0181
16207 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)

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16208 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188  
16209 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (pho-  
netic)  
16210 \DeclareTextCommand{\texthausad}{PU}{\81\212}%\* U+018A  
16211 % U+018E LATIN CAPITAL LETTER REVERSED E; Ereversed  
16212 \DeclareTextCommand{\textEreversed}{PU}{\81\216}% U+018E  
16213 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E  
16214 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
16215 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
16216 %\* \textflorin -> \Florin (marvosym)  
16217 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)  
16218 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195  
16219 %\* \texthvlig -> \hv (wsuipa)  
16220 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (pho-  
netic)  
16221 \DeclareTextCommand{\texthausak}{PU}{\81\230}%\* U+0198  
16222 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)  
16223 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199  
16224 %\* \texthtk -> \hausak (phonetic)  
16225 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;  
16226 % \textbarl (tipa), \barl (wsuipa)  
16227 \DeclareTextCommand{\textbarl}{PU}{\81\232}%\* U+019A  
16228 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/  
16229 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;  
16230 % \textcrlambda (tipa)  
16231 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B  
16232 %\* \textcrlambda -> \crossnilambda (wsuipa)  
16233 %\* \textcrlambda -> \barlambda (phonetic)  
16234 %\* \textcrlambda -> \lambdabar (txfonts/pxfonts)  
16235 %\* \textcrlambda -> \lambdaslash (txfonts/pxfonts)  
16236 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-  
long;  
16237 % \textnrleg (tipx)  
16238 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E  
16239 %\* \textPUnrleg -> \textnrleg (tipx)  
16240 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)  
16241 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5  
16242 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;  
16243 % \textlhookt (tipa)  
16244 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB  
16245 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)  
16246 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD  
16247 % U+01B9 LATIN SMALL LETTER EZH REVERSED/  
16248 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)  
16249 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9  
16250 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)  
16251 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB  
16252 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;  
16253 % glottalinvertedstroke; \textcrinvglotstop (tipa)  
16254 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE  
16255 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)  
16256 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF  
16257 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-  
tal;  
16258 % \textpipe (tipa)  
16259 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0  
16260 %\* \textpipe -> \textpipevar (tipx)

16261 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER  
16262 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)  
16263 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1  
16264 %\* \textdoublepipe -> \textdoublepipevar (tipx)  
16265 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-  
BLE BAR;  
16266 % clickalveolar; \textdoublebarpipe (tipa)  
16267 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2  
16268 %\* \textdoublebarpipe -> \textdoublebarpipevar (tipx)  
16269 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
16270 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
16271 % U+01CE LATIN SMALL LETTER A WITH CARON; acarón  
16272 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
16273 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
16274 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
16275 % U+01D0 LATIN SMALL LETTER I WITH CARON; icarón  
16276 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
16277 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
16278 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
16279 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
16280 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocarón  
16281 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
16282 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
16283 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
16284 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucarón  
16285 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
16286 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)  
16287 \DeclareTextCommand{\textinve}{PU}{\81\335}%\* U+01DD  
16288 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
16289 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
16290 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
16291 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
16292 %\* \textgslash -> \textcrg (tipa)  
16293 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
16294 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
16295 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
16296 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
16297 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
16298 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
16299 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
16300 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
16301 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
16302 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
16303 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
16304 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
16305 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
16306 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
16307 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
16308 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
16309 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
16310 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
16311 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
16312 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
16313 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
16314 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
16315 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
16316 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute



16317 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
16318 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
16319 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
16320 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;  
16321 % \*Oslashacute, Ostrokeacut  
16322 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
16323 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;  
16324 % \*oslashacute, ostrokeacute  
16325 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
16326 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
16327 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
16328 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
16329 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
16330 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
16331 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
16332 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
16333 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
16334 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-  
edbreve  
16335 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206  
16336 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einverted-  
breve  
16337 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207  
16338 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
16339 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
16340 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
16341 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16342 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16343 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-  
breve  
16344 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A  
16345 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-  
breve  
16346 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
16347 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
16348 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
16349 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
16350 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
16351 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
16352 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-  
edbreve  
16353 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E  
16354 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-  
breve  
16355 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F  
16356 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
16357 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
16358 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
16359 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
16360 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
16361 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
16362 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
16363 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
16364 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-  
edbreve  
16365 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216

16366 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-breve  
16367 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217  
16368 % U+021E LATIN CAPITAL LETTER H WITH CARON  
16369 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
16370 % U+021F LATIN SMALL LETTER H WITH CARON  
16371 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
16372 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)  
16373 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221  
16374 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)  
16375 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225  
16376 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
16377 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
16378 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
16379 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
16380 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
16381 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
16382 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
16383 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
16384 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
16385 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
16386 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
16387 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
16388 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
16389 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
16390 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
16391 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
16392 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)  
16393 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235  
16394 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)  
16395 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236  
16396 % U+0237 LATIN SMALL LETTER DOTLESS J  
16397 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237  
16398 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)  
16399 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238  
16400 %\* \textPUdblig -> \textdblig (tipx)  
16401 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)  
16402 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239  
16403 %\* \textPUqplig -> \textqplig (tipx)  
16404 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)  
16405 \DeclareTextCommand{\textslashc}{PU}{\82\074}%\* U+023C  
16406 %\* \textslashc -> \textcentoldstyle (textcomp)  
16407 % With bar instead of stroke:  
16408 %\* \textslashc -> \textbarc (tipa)

### 51.2.6 IPA Extensions: U+0250 to U+02AF

16409 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)  
16410 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250  
16411 %\* \textturna -> \inva (wasysym)  
16412 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER  
16413 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)  
16414 \DeclareTextCommand{\textscripta}{PU}{\82\121}%\* U+0251  
16415 %\* \textscripta -> \vara (phonetic)  
16416 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;  
16417 % \textturnscripta (tipa)  
16418 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252  
16419 %\* \textturnscripta -> \invscripta (wsuipa)

16420 %\* \textturnscripta -> \rotvara (phonetic)  
16421 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)  
16422 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253  
16423 %\* \texthtb -> \hookb (wsuipa)  
16424 %\* \texthtb -> \hausab (phonetic)  
16425 % U+0254 LATIN SMALL LETTER OPEN O; oopen;  
16426 % \textopeno (tipa), \openo (wasysym)  
16427 \DeclareTextCommand{\textopeno}{PU}{\82\124}% U+0254  
16428 %\* \textopeno -> \varopeno (phonetic)  
16429 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)  
16430 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255  
16431 %\* \textctc -> \curlyc (wsuipa)  
16432 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)  
16433 \DeclareTextCommand{\textrtaild}{PU}{\82\126}% U+0256  
16434 %\* \textrtaild -> \taild (wsuipa)  
16435 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)  
16436 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257  
16437 %\* \texthtd -> \hookd (wsuipa)  
16438 %\* \texthtd -> \hausad (phonetic)  
16439 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;  
16440 % \textreve (tipa), \reve (wsuipa)  
16441 \DeclareTextCommand{\textreve}{PU}{\82\130}% U+0258  
16442 % U+0259 LATIN SMALL LETTER SCHWA; schwa;  
16443 % \textschwa (tipa), \schwa (wsuipa, phonetic)  
16444 \DeclareTextCommand{\textschwa}{PU}{\82\131}% U+0259  
16445 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;  
16446 % \textrhookschwa (tipa)  
16447 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A  
16448 %\* \textrhookschwa -> \er (wsuipa)  
16449 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-  
SILON; eopen;  
16450 % \niepsilon (wsuipa)  
16451 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}% U+025B  
16452 %\* \textniepsilon -> \epsi (phonetic)  
16453 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;  
16454 % \textrevepsilon (tipa), \revepsilon (wsuipa)  
16455 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}% U+025C  
16456 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-  
reversedhook;  
16457 % \textrhookrevepsilon (tipa)  
16458 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}% U+025D  
16459 %\* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)  
16460 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-  
versedclosed;  
16461 % \textcloserevepsilon (tipa)  
16462 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E  
16463 %\* \textcloserevepsilon -> \closedrevepsilon (wsuipa)  
16464 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-  
lessstroke;  
16465 % \textbardotlessj (tipa)  
16466 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F  
16467 %\* \textbardotlessj -> \barj (phonetic)  
16468 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)  
16469 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260  
16470 %\* \texthtg -> \hookg (wsuipa)  
16471 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;  
16472 % \textscriptg (tipa), \scriptg (wsuipa)

16473 \DeclareTextCommand{\textscriptg}{PU}{\82\141}%\* U+0261  
16474 %\* \textscriptg -> \varg (phonetic)  
16475 % U+0262 LATIN SMALL LETTER CAPITAL G; \textscg (tipa), \scg (wsuipa)  
16476 \DeclareTextCommand{\textscg}{PU}{\82\142}%\* U+0262  
16477 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;  
16478 % \ipagamma (wsuipa), \vod (phonetic)  
16479 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%\* U+0263  
16480 %\* \textipagamma -> \vod (phonetic)  
16481 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;  
16482 % \babygamma (wsuipa)  
16483 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%\* U+0264  
16484 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)  
16485 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265  
16486 %\* \textturnh -> \invh (wsuipa)  
16487 %\* \textturnh -> \udesc (phonetic)  
16488 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)  
16489 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266  
16490 %\* \texthth -> \hookh (wsuipa)  
16491 %\* \texthth -> \voicedh (phonetic)  
16492 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \tex-  
ththeng (tipa)  
16493 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267  
16494 %\* \texththeng -> \hookheng (wsuipa)  
16495 % U+0268 LATIN SMALL LETTER I WITH STROKE;  
16496 % \textbari (tipa), \bari (wsuipa)  
16497 \DeclareTextCommand{\textbari}{PU}{\82\150}%\* U+0268  
16498 %\* \textbari -> \ibar (phonetic)  
16499 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)  
16500 \DeclareTextCommand{\textniiota}{PU}{\82\151}%\* U+0269  
16501 %\* \textniiota -> \vari (phonetic)  
16502 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)  
16503 \DeclareTextCommand{\textsci}{PU}{\82\152}%\* U+026A  
16504 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;  
16505 % \textltilde (tipa)  
16506 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B  
16507 %\* \textltilde -> \tildel (wsuipa)  
16508 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)  
16509 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C  
16510 %\* \textbeltl -> \latfrc (wsuipa)  
16511 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;  
16512 % lhookretroflex; \textrtaill (tipa)  
16513 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D  
16514 %\* \textrtaill -> \taill (wsuipa)  
16515 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)  
16516 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E  
16517 %\* \textlyoghlig -> \lz (wsuipa)  
16518 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)  
16519 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F  
16520 %\* \textturnm -> \invm (wsuipa)  
16521 %\* \textturnm -> \rotm (phonetic)  
16522 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlongleg-  
turned;  
16523 % \textturnmrleg (tipa)  
16524 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270  
16525 %\* \textturnmrleg -> \legm (wsuipa)  
16526 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)  
16527 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271

16528 %\* \textltailm -> \labdentalnas (wsuipa)  
 16529 %\* \textltailm -> \emgma (phonetic)  
 16530 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textltailn (tipa)  
 16531 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272  
 16532 %\* \textltailn -> \nj (wsuipa)  
 16533 %\* \textltailn -> \nya (phonetic)  
 16534 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;  
 16535 % nhookretroflex; \textrtailn (tipa)  
 16536 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273  
 16537 %\* \textrtailn -> \tailn (wsuipa)  
 16538 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)  
 16539 \DeclareTextCommand{\textscn}{PU}{\82\164}% U+0274  
 16540 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/  
 16541 % LATIN CAPITAL LETTER BARRED O; obarred;  
 16542 % \textbaro (tipa), \baro (wsuipa)  
 16543 % But \baro from stmaryrd is different!  
 16544 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275  
 16545 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscelig (tipa)  
 16546 \DeclareTextCommand{\textscelig}{PU}{\82\166}% U+0276  
 16547 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatincllosed;  
 16548 % \textcloseomega (tipa)  
 16549 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277  
 16550 %\* \textcloseomega -> \closedniomega (wsuipa)  
 16551 %\* \textcloseomega -> \varomega (phonetic)  
 16552 % U+0278 LATIN SMALL LETTER PHI; philatin; \nippi (wsuipa)  
 16553 \DeclareTextCommand{\textnippi}{PU}{\82\170}% U+0278  
 16554 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)  
 16555 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279  
 16556 %\* \textturnr -> \invr (wsuipa)  
 16557 %\* \textturnr -> \rotr (phonetic)  
 16558 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;  
 16559 % rlonglegturned; \textturnlongleg (tipa)  
 16560 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A  
 16561 %\* \textturnlongleg -> \invleg (wsuipa)  
 16562 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhoorturned;  
 16563 % \textturnrrtail (tipa)  
 16564 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B  
 16565 %\* \textturnrrtail -> \tailinvr (wsuipa)  
 16566 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlongleg (tipa)  
 16567 \DeclareTextCommand{\textlongleg}{PU}{\82\174}% U+027C  
 16568 %\* \textlongleg -> \leg (wsuipa)  
 16569 % U+027D LATIN SMALL LETTER R WITH TAIL; rhoort; \textrtailr (tipa)  
 16570 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D  
 16571 %\* \textrtailr -> \tailr (wsuipa)  
 16572 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;  
 16573 % \textfishhookr (tipa)  
 16574 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E  
 16575 %\* \textfishhookr -> \flapr (wsuipa)  
 16576 %\* \textfishhookr -> \flap (phonetic)  
 16577 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfishhookreversed;  
 16578 % \textlhtlongi (tipa)  
 16579 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F  
 16580 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)  
 16581 \DeclareTextCommand{\textscr}{PU}{\82\200}% U+0280

16582 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;  
16583 % \textinvscr (tipa), \invscr (wsuipa)  
16584 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%\* U+0281  
16585 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \textrtails (tipa)  
16586 \DeclareTextCommand{\textrtails}{PU}{\82\202}% U+0282  
16587 %\* \textrtails -> \tails (wsuipa)  
16588 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)  
16589 \DeclareTextCommand{\textesh}{PU}{\82\203}%\* U+0283  
16590 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;  
16591 % dotlessjstrokehook; \texthtbardotlessj (tipa)  
16592 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284  
16593 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatre-  
versed;  
16594 % \textvibyi (tipa)  
16595 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285  
16596 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)  
16597 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286  
16598 %\* \textctesh -> \curlyesh (wsuipa)  
16599 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)  
16600 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287  
16601 %\* \textturnt -> \clickt (wsuipa)  
16602 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflex-  
hook;  
16603 % \textrtailt (tipa)  
16604 \DeclareTextCommand{\textrtailt}{PU}{\82\210}% U+0288  
16605 %\* \textrtailt -> \tailt (wsuipa)  
16606 % U+0289 LATIN SMALL LETTER U BAR; ubar;  
16607 % \textbaru (tipa), \baru (wsuipa)  
16608 \DeclareTextCommand{\textbaru}{PU}{\82\211}%\* U+0289  
16609 %\* \textbaru -> \ubar (phonetic)  
16610 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)  
16611 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%\* U+028A  
16612 %\* \textniupsilon -> \rotOmega (phonetic)  
16613 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LET-  
TER SCRIPT V;  
16614 % vhook; \textscriptv (tipa), \scriptv (wsuipa)  
16615 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%\* U+028B  
16616 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)  
16617 \DeclareTextCommand{\textturnv}{PU}{\82\214}%\* U+028C  
16618 %\* \textturnv -> \invv (wsuipa)  
16619 %\* \textturnv -> \pwedge (phonetic)  
16620 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)  
16621 \DeclareTextCommand{\textturnw}{PU}{\82\215}%\* U+028D  
16622 %\* \textturnw -> \invw (wsuipa)  
16623 %\* \textturnw -> \rotw (phonetic)  
16624 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)  
16625 \DeclareTextCommand{\textturny}{PU}{\82\216}%\* U+028E  
16626 %\* \textturny -> \invy (wsuipa)  
16627 %\* \textturny -> \roty (phonetic)  
16628 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)  
16629 \DeclareTextCommand{\textscy}{PU}{\82\217}%\* U+028F  
16630 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-  
hook;  
16631 % \textrtailz (tipa)  
16632 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290  
16633 %\* \textrtailz -> \tailz (wsuipa)  
16634 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)

16635 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291  
16636 %\* \textctz -> \curlyz (wsuipa)  
16637 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;  
16638 % \textyogh (tipa), \yogh (wsuipa)  
16639 \DeclareTextCommand{\textyogh}{PU}{\82\222}%\* U+0292  
16640 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LETTER YOGH CURL;  
16641 % ezhcurl; \textctyogh (tipa)  
16642 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293  
16643 %\* \textctyogh -> \curlyyogh (wsuipa)  
16644 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;  
16645 % \textglotstop (tipa), \glotstop (wsuipa)  
16646 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%\* U+0294  
16647 %\* \textglotstop -> \ejective (wsuipa)  
16648 %\* \textglotstop -> \glottal (phonetic)  
16649 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/  
16650 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;  
16651 % \textrevglotstop (tipa), \revglotstop (wsuipa)  
16652 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%\* U+0295  
16653 %\* \textrevglotstop -> \reveject (wsuipa)  
16654 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;  
16655 % \textinvglotstop (tipa), \invglotstop (wsuipa)  
16656 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%\* U+0296  
16657 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)  
16658 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297  
16659 %\* \textstretchc -> \clickc (wsuipa)  
16660 %\* \textstretchc -> \textstretchcvar (tipx)  
16661 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;  
16662 % \textbullseye (tipa)  
16663 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298  
16664 %\* \textbullseye -> \clickb (wsuipa)  
16665 %\* \textbullseye -> \textObullseye (tipx)  
16666 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)  
16667 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299  
16668 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;  
16669 % \textcloseepsilon (tipa)  
16670 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A  
16671 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;  
16672 % \texthtscg (tipa)  
16673 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B  
16674 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)  
16675 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C  
16676 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossetail; \textcdj (tipa)  
16677 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D  
16678 %\* \textctj -> \textctjvar (tipx)  
16679 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)  
16680 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E  
16681 %\* \textturnk -> \textturnsck (tipx)  
16682 % U+029F LATIN LETTER SMALL CAPITAL L; \textscL (tipa)  
16683 \DeclareTextCommand{\textscL}{PU}{\82\237}% U+029F  
16684 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)  
16685 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0  
16686 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-stroke;  
16687 % \textbarglotstop (tipa)  
16688 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1

16689 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/  
 16690 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokere-  
 versed;  
 16691 % \textbarrevglotstop (tipa)  
 16692 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2  
 16693 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)  
 16694 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3  
 16695 %\* \textdzlig -> \dz (wsupipa)  
 16696 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyogh-  
 lig (tipa)  
 16697 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4  
 16698 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;  
 16699 % \textdctzlig (tipa)  
 16700 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5  
 16701 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)  
 16702 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6  
 16703 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \texttshlig (tipa)  
 16704 \DeclareTextCommand{\texttshlig}{PU}{\82\247}% U+02A7  
 16705 %\* \texttshlig -> \tesh (wsuipa)  
 16706 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;  
 16707 % \texttctclig (tipa)  
 16708 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8  
 16709 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;  
 16710 % \textlhtlongy (tipa)  
 16711 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE  
 16712 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;  
 16713 % \textvibyy (tipa)  
 16714 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

### 51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16715 % U+02BD MODIFIER LETTER REVERSED COMMA;  
 16716 % commareversedmod, afi64937; \textrevapostrophe (tipa)  
 16717 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD  
 16718 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;  
 16719 % \textraiseglotstop (tipa)  
 16720 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0  
 16721 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;  
 16722 % \textlptr (tipa)  
 16723 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2  
 16724 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;  
 16725 % \textrptr (tipa)  
 16726 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3  
 16727 % U+02C7 CARON; caron  
 16728 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 16729 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;  
 16730 % \textprimstress (tipa)  
 16731 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8  
 16732 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;  
 16733 % \textsecstress (tipa)  
 16734 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC  
 16735 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;  
 16736 % \textlengthmark (tipa)  
 16737 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0  
 16738 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangu-  
 larhalfmod;  
 16739 % \texthalflength (tipa)  
 16740 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1



16741 % U+02D8 BREVE; breve  
 16742 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 16743 % U+02D9 DOT ABOVE; dotaccent  
 16744 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 16745 % U+02DA RING ABOVE; ring  
 16746 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 16747 % U+02DB OGONEK; ogonek  
 16748 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 16749 % U+02DC SMALL TILDE; ilde, \*tilde  
 16750 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 16751 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 16752 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 16753 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD  
 16754 % U+02F3 MODIFIER LETTER LOW RING  
 16755 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3  
 16756 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 16757 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 16758 % U+02F7 MODIFIER LETTER LOW TILDE  
 16759 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7  
 16760 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)  
 16761 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9  
 16762 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)  
 16763 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

### 51.2.8 Combining Diacritical Marks: U+0300 to U+036F

16764 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 16765 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 16766 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 16767 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 16768 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
 16769 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 16770 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 16771 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 16772 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 16773 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

### 51.2.9 Greek and Coptic: U+0370 to U+03FF

16774 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 16775 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 16776 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 16777 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 16778 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos  
 16779 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 16780 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 16781 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 16782 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 16783 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 16784 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 16785 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 16786 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos  
 16787 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 16788 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilononos  
 16789 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 16790 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 16791 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F

16792 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;  
16793 %   iotadieresis  
16794 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
16795 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
16796 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
16797 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
16798 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
16799 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)  
16800 \DeclareTextCommand{\textGamma}{PU}{\83\223}%\* U+0393  
16801 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta; \Delta (LaTeX)  
16802 \DeclareTextCommand{\textDelta}{PU}{\83\224}%\* U+0394  
16803 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
16804 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
16805 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
16806 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
16807 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
16808 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
16809 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)  
16810 \DeclareTextCommand{\textTheta}{PU}{\83\230}%\* U+0398  
16811 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
16812 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
16813 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
16814 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
16815 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)  
16816 \DeclareTextCommand{\textLambda}{PU}{\83\233}%\* U+039B  
16817 % U+039C GREEK CAPITAL LETTER MU; Mu  
16818 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
16819 % U+039D GREEK CAPITAL LETTER NU; Nu  
16820 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
16821 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)  
16822 \DeclareTextCommand{\textXi}{PU}{\83\236}%\* U+039E  
16823 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
16824 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
16825 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
16826 \DeclareTextCommand{\textPi}{PU}{\83\240}%\* U+03A0  
16827 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
16828 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
16829 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)  
16830 \DeclareTextCommand{\textSigma}{PU}{\83\243}%\* U+03A3  
16831 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
16832 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
16833 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)  
16834 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%\* U+03A5  
16835 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)  
16836 \DeclareTextCommand{\textPhi}{PU}{\83\246}%\* U+03A6  
16837 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
16838 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
16839 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)  
16840 \DeclareTextCommand{\textPsi}{PU}{\83\250}%\* U+03A8  
16841 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega;  
16842 %   \Omega (LaTeX)  
16843 \DeclareTextCommand{\textOmega}{PU}{\83\251}%\* U+03A9  
16844 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
16845 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
16846 \DeclareTextCompositeCommand{\"}{PU}{\textIota}{\83\252}% U+03AA

16847 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis  
 16848 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
 16849 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos  
 16850 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}%\* U+03AC  
 16851 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon  
 16852 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD  
 16853 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos  
 16854 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE  
 16855 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos  
 16856 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF  
 16857 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA  
 16858 % AND TONOS; upsilondieresis  
 16859 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0  
 16860 % U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)  
 16861 \DeclareTextCommand{\textalpha}{PU}{\83\261}%\* U+03B1  
 16862 % U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)  
 16863 \DeclareTextCommand{\textbeta}{PU}{\83\262}%\* U+03B2  
 16864 % U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)  
 16865 \DeclareTextCommand{\textgamma}{PU}{\83\263}%\* U+03B3  
 16866 % U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)  
 16867 \DeclareTextCommand{\textdelta}{PU}{\83\264}%\* U+03B4  
 16868 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)  
 16869 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%\* U+03B5  
 16870 % U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)  
 16871 \DeclareTextCommand{\textzeta}{PU}{\83\266}%\* U+03B6  
 16872 % U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)  
 16873 \DeclareTextCommand{\texteta}{PU}{\83\267}%\* U+03B7  
 16874 % U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)  
 16875 \DeclareTextCommand{\texttheta}{PU}{\83\270}%\* U+03B8  
 16876 % U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)  
 16877 \DeclareTextCommand{\textiota}{PU}{\83\271}%\* U+03B9  
 16878 % U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)  
 16879 \DeclareTextCommand{\textkappa}{PU}{\83\272}%\* U+03BA  
 16880 % U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)  
 16881 \DeclareTextCommand{\textlambda}{PU}{\83\273}%\* U+03BB  
 16882 % U+03BC GREEK SMALL LETTER MU; mugreek; \mu (LaTeX)  
 16883 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%\* U+03BC  
 16884 % U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)  
 16885 \DeclareTextCommand{\textnu}{PU}{\83\275}%\* U+03BD  
 16886 % U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)  
 16887 \DeclareTextCommand{\textxi}{PU}{\83\276}%\* U+03BE  
 16888 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
 16889 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
 16890 % U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)  
 16891 \DeclareTextCommand{\textpi}{PU}{\83\300}%\* U+03C0  
 16892 % U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)  
 16893 \DeclareTextCommand{\textrho}{PU}{\83\301}%\* U+03C1  
 16894 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \sigmaf, \sigmafinal  
 16895 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%\* U+03C2  
 16896 % U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)  
 16897 \DeclareTextCommand{\textsigma}{PU}{\83\303}%\* U+03C3  
 16898 % U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)  
 16899 \DeclareTextCommand{\texttau}{PU}{\83\304}%\* U+03C4  
 16900 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)  
 16901 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%\* U+03C5  
 16902 % U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)

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16903 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
16904 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)
16905 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
16906 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)
16907 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
16908 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)
16909 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
16910 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
16911 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\312}% U+03CA
16912 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
    silondieresis
16913 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\313}% U+03CB
16914 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
16915 \DeclareTextCompositeCommand{\'}{PU}{\textomicron}{\83\314}% U+03CC
16916 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
16917 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
16918 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}% U+03CD
16919 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
16920 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}% U+03CE
16921 % U+03DA GREEK LETTER STIGMA; Stigmagreek
16922 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
16923 % U+03DB GREEK SMALL LETTER STIGMA
16924 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
16925 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
16926 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
16927 % U+03DD GREEK SMALL LETTER DIGAMMA
16928 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
16929 %* \textdigammagreek -> \digamma (AmS)
16930 % U+03DE GREEK LETTER KOPPA; Koppagreek
16931 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
16932 % U+03DF GREEK SMALL LETTER KOPPA
16933 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
16934 % U+03E0 GREEK LETTER SAMPI; Sampigreek
16935 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
16936 % U+03E1 GREEK SMALL LETTER SAMPI
16937 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1
16938 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;
16939 % \backepsilon (AmS)
16940 \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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16941 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
16942 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
16943 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrilic, *afi10023
16944 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
16945 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\001}% U+0401
16946 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afi10051
16947 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
16948 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afi10052
16949 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
16950 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrilic, *afi10053
16951 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
16952 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afi10054
16953 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
16954 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;

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16955 % Icyrillic, \*afii10055  
16956 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
16957 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
16958 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
16959 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407  
16960 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
16961 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
16962 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
16963 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
16964 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
16965 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
16966 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
16967 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
16968 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
16969 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
16970 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
16971 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D  
16972 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
16973 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
16974 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
16975 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
16976 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
16977 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
16978 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
16979 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
16980 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
16981 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
16982 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
16983 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
16984 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
16985 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
16986 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
16987 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
16988 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
16989 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
16990 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
16991 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
16992 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
16993 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
16994 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
16995 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
16996 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
16997 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
16998 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
16999 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
17000 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
17001 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
17002 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
17003 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
17004 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
17005 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
17006 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
17007 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
17008 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
17009 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
17010 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
17011 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420

17012 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
17013 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
17014 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
17015 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
17016 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
17017 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
17018 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
17019 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
17020 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
17021 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
17022 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
17023 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
17024 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
17025 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
17026 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
17027 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
17028 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
17029 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
17030 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;  
17031 % Hardsigncyrillic, \*afii10044  
17032 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
17033 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
17034 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
17035 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;  
17036 % Softsigncyrillic, \*afii10046  
17037 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
17038 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
17039 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
17040 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
17041 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
17042 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
17043 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
17044 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
17045 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
17046 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
17047 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
17048 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
17049 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
17050 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
17051 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
17052 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
17053 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
17054 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
17055 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
17056 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhacyrillic  
17057 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436  
17058 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
17059 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
17060 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
17061 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
17062 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
17063 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
17064 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
17065 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
17066 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
17067 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
17068 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B

17069 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
17070 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
17071 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
17072 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
17073 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
17074 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
17075 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
17076 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
17077 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
17078 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
17079 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
17080 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441  
17081 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
17082 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
17083 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
17084 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
17085 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
17086 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
17087 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
17088 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
17089 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
17090 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
17091 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
17092 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
17093 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
17094 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
17095 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
17096 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
17097 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
17098 \DeclareTextCommand{\cyrhdsn}{PU}{\84\112}% U+044A  
17099 %\* \cyrhdsn -> \hardsign (tipa)  
17100 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
17101 \DeclareTextCommand{\cyry}{PU}{\84\113}% U+044B  
17102 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
17103 \DeclareTextCommand{\cyrsftsn}{PU}{\84\114}% U+044C  
17104 %\* \cyrsftsn -> \softsign (tipa)  
17105 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
17106 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D  
17107 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
17108 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E  
17109 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
17110 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F  
17111 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
17112 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
17113 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
17114 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451  
17115 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
17116 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
17117 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
17118 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
17119 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
17120 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
17121 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
17122 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
17123 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
17124 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;

17125 % \*afii10103, icyrillic  
17126 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
17127 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
17128 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
17129 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
17130 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
17131 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
17132 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
17133 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
17134 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
17135 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
17136 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
17137 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
17138 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
17139 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
17140 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
17141 \DeclareTextCompositeCommand{\`}{PU}{\cyri}{\84\135}% U+045D  
17142 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
17143 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
17144 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
17145 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
17146 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
17147 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
17148 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
17149 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
17150 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
17151 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
17152 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
17153 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
17154 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
17155 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
17156 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
17157 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
17158 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
17159 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslitlecyrillic  
17160 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
17161 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslitlecyrillic  
17162 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
17163 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-  
otifiedcyrillic  
17164 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
17165 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-  
fiedcyrillic  
17166 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
17167 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
17168 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
17169 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
17170 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
17171 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
cyrillic  
17172 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
17173 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-  
cyrillic  
17174 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
17175 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
17176 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
17177 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic



17178 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
17179 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
17180 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
17181 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
17182 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
17183 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
17184 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
17185 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
17186 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
17187 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
17188 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
17189 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
17190 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
17191 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE  
17192 % GRAVE ACCENT; Izhitsadblgravecyrillic  
17193 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
17194 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE  
17195 % GRAVE ACCENT; izhitsadblgravecyrillic  
17196 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
17197 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
17198 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
17199 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
17200 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
17201 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
17202 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
17203 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
17204 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
17205 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
17206 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
17207 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
17208 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
17209 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
17210 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
17211 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
17212 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
17213 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
17214 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
17215 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
17216 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
17217 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
17218 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
\84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb  
\84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrilliccmb  
\84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrilliccmb  
\84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrilliccmb  
\84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
\84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
\84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
17219 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
17220 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A

17221 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
17222 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
17223 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
17224 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
17225 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
17226 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
17227 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
17228 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
17229 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
17230 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
17231 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-cyrillic, \*afii10050  
17232 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
17233 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
17234 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
17235 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-cyrillic  
17236 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
17237 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
17238 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
17239 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;  
17240 % Ghemiddlehookcyrillic  
17241 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
17242 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;  
17243 % ghemiddlehookcyrillic  
17244 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
17245 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;  
17246 % Zhedescendercyrillic  
17247 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
17248 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;  
17249 % zhedescendercyrillic  
17250 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
17251 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
17252 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
17253 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
17254 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
17255 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
17256 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
17257 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic  
17258 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
17259 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadesendercyrillic  
17260 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
17261 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;  
17262 % Kavertikalstrokecyrillic  
17263 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
17264 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;  
17265 % kavertikalstrokecyrillic  
17266 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
17267 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
17268 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
17269 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
17270 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F

17271 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 17272 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
 17273 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 17274 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 17275 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-  
 dercyrillic  
 17276 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 17277 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-  
 cyrillic  
 17278 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 17279 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 17280 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 17281 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 17282 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 17283 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-  
 dlehookcyrillic  
 17284 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
 17285 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddle-  
 hookcyrillic  
 17286 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
 17287 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyril-  
 lic  
 17288 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
 17289 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
 17290 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
 17291 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescen-  
 dercyrillic  
 17292 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
 17293 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
 17294 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-  
 cyrillic  
 17295 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
 17296 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB  
 17297 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescen-  
 dercyrillic  
 17298 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
 17299 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescen-  
 dercyrillic  
 17300 \DeclareTextCommand{\cyrtddsc}{PU}{\84\255}% U+04AD  
 17301 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
 17302 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
 17303 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
 17304 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
 17305 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Us-  
 traightstrokecyrillic  
 17306 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
 17307 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-  
 traightstrokecyrillic  
 17308 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1  
 17309 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescen-  
 dercyrillic  
 17310 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
 17311 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescen-  
 dercyrillic  
 17312 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
 17313 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
 17314 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4

17315 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
17316 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
17317 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;  
17318 % Chedescendercyrillic  
17319 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
17320 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescen-  
dercyrillic  
17321 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
17322 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;  
17323 % Cheverticalstrokecyrillic  
17324 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
17325 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;  
17326 % cheverticalstrokecyrillic  
17327 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
17328 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
17329 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
17330 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
17331 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
17332 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-  
cyrillic  
17333 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
17334 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-  
lic  
17335 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
17336 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; Chedescenderabkhasiancyrillic  
17337 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
17338 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
17339 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; chedescenderabkhasiancyrillic  
17340 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
17341 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
17342 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
17343 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
17344 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
17345 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
17346 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
17347 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
17348 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
17349 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
17350 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
17351 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
17352 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
17353 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
17354 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
17355 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
17356 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
17357 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
17358 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
17359 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
17360 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-  
siancyrillic  
17361 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
17362 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
cyrillic  
17363 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
17364 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL

17365 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
17366 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
17367 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
17368 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
17369 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
17370 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
17371 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
17372 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-  
lic  
17373 \DeclareTextCompositeCommand{\"}{PU}{\CYRA}{\84\322}% U+04D2  
17374 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
17375 \DeclareTextCompositeCommand{\"}{PU}{\cyra}{\84\323}% U+04D3  
17376 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
17377 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
17378 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
17379 \DeclareTextCommand{\\cyrae}{PU}{\84\325}% U+04D5  
17380 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevocyrillic  
17381 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
17382 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevocyrillic  
17383 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
17384 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
17385 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
17386 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
17387 \DeclareTextCommand{\\cyrschwa}{PU}{\84\331}% U+04D9  
17388 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;  
17389 % Schwadieresiscyrillic  
17390 \DeclareTextCompositeCommand{\"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
17391 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;  
17392 % schwadieresiscyrillic  
17393 \DeclareTextCompositeCommand{\"}{PU}{\cyrschwa}{\84\333}% U+04DB  
17394 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-  
siscyrillic  
17395 \DeclareTextCompositeCommand{\"}{PU}{\CYRZH}{\84\334}% U+04DC  
17396 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-  
cyrillic  
17397 \DeclareTextCompositeCommand{\"}{PU}{\cyrz}{\84\335}% U+04DD  
17398 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-  
cyrillic  
17399 \DeclareTextCompositeCommand{\"}{PU}{\CYRZ}{\84\336}% U+04DE  
17400 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyril-  
lic  
17401 \DeclareTextCompositeCommand{\"}{PU}{\cyrz}{\84\337}% U+04DF  
17402 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-  
cyrillic  
17403 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
17404 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyril-  
lic  
17405 \DeclareTextCommand{\\cyrabhdze}{PU}{\84\341}% U+04E1  
17406 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
17407 \DeclareTextCompositeCommand{\=} {PU}{\CYRI}{\84\342}% U+04E2  
17408 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
17409 \DeclareTextCompositeCommand{\=} {PU}{\cyri}{\84\343}% U+04E3  
17410 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
17411 \DeclareTextCompositeCommand{\"}{PU}{\CYRI}{\84\344}% U+04E4  
17412 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
17413 \DeclareTextCompositeCommand{\"}{PU}{\cyri}{\84\345}% U+04E5

17414 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
 17415 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
 17416 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
 17417 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
 17418 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
 17419 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
 17420 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
 17421 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
 17422 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;  
 17423 % Obarreddieresiscyrillic  
 17424 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
 17425 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;  
 17426 % obarreddieresiscyrillic  
 17427 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
 17428 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
 17429 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
 17430 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
 17431 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
 17432 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
 17433 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE  
 17434 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
 17435 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF  
 17436 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
 17437 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
 17438 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
 17439 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 17440 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic  
 17441 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
 17442 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic  
 17443 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
 17444 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic  
 17445 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 17446 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
 17447 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 17448 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 17449 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 17450 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 17451 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 17452 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic  
 17453 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 17454 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic  
 17455 \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  
 17456 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 17457 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 17458 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK

17459 \DeclareTextCommand{\cyrhhk}{PU}{\84\375}% U+04FD  
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE  
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

### 51.2.11 Hebrew: U+0590 to U+05FF

Macro names are taken from he8enc.def.

17460 % U+05C3 HEBREW PUNCTUATION SOF PASUQ  
 17461 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3  
 17462 % U+05D0 HEBREW LETTER ALEF  
 17463 \DeclareTextCommand{\hebalet}{PU}{\85\320}% U+05D0  
 17464 % U+05D1 HEBREW LETTER BET  
 17465 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1  
 17466 % U+05D2 HEBREW LETTER GIMEL  
 17467 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2  
 17468 % U+05D3 HEBREW LETTER DALET  
 17469 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3  
 17470 % U+05D4 HEBREW LETTER HE  
 17471 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4  
 17472 % U+05D5 HEBREW LETTER VAV  
 17473 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5  
 17474 % U+05D6 HEBREW LETTER ZAYIN  
 17475 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6  
 17476 % U+05D7 HEBREW LETTER HET  
 17477 \DeclareTextCommand{\hebbet}{PU}{\85\327}% U+05D7  
 17478 % U+05D8 HEBREW LETTER TET  
 17479 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8  
 17480 % U+05D9 HEBREW LETTER YOD  
 17481 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9  
 17482 % U+05DA HEBREW LETTER FINAL KAF  
 17483 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA  
 17484 % U+05DB HEBREW LETTER KAF  
 17485 \DeclareTextCommand{\hebkaf}{PU}{\85\333}% U+05DB  
 17486 % U+05DC HEBREW LETTER LAMED  
 17487 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC  
 17488 % U+05DD HEBREW LETTER FINAL MEM  
 17489 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD  
 17490 % U+05DE HEBREW LETTER MEM  
 17491 \DeclareTextCommand{\hebmam}{PU}{\85\336}% U+05DE  
 17492 % U+05DF HEBREW LETTER FINAL NUN  
 17493 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF  
 17494 % U+05E0 HEBREW LETTER NUN  
 17495 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0  
 17496 % U+05E1 HEBREW LETTER SAMEKH  
 17497 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1  
 17498 % U+05E2 HEBREW LETTER AYIN  
 17499 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2  
 17500 % U+05E3 HEBREW LETTER FINAL PE  
 17501 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3  
 17502 % U+05E4 HEBREW LETTER PE  
 17503 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4  
 17504 % U+05E5 HEBREW LETTER FINAL TSADI  
 17505 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5  
 17506 % U+05E6 HEBREW LETTER TSADI  
 17507 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6  
 17508 % U+05E7 HEBREW LETTER QOF  
 17509 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7

17510 % U+05E8 HEBREW LETTER RESH  
 17511 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8  
 17512 % U+05E9 HEBREW LETTER SHIN  
 17513 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9  
 17514 %\* \hebshin -> \hebsin (he8)  
 17515 % U+05EA HEBREW LETTER TAV  
 17516 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA  
 17517 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV  
 17518 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0  
 17519 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD  
 17520 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1  
 17521 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD  
 17522 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2

### 51.2.12 Thai: U+0E00 to U+0E7F

17523 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 17524 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

### 51.2.13 Phonetic Extensions: U+1D00 to U+1D7F

17525 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textscA (tipa)  
 17526 \DeclareTextCommand{\textscA}{PU}{\9035\000}% U+1D00  
 17527 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)  
 17528 \DeclareTextCommand{\textscd}{PU}{\9035\005}% U+1D05  
 17529 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textscE (tipa)  
 17530 \DeclareTextCommand{\textscE}{PU}{\9035\007}% U+1D07  
 17531 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscJ (tipa)  
 17532 \DeclareTextCommand{\textscJ}{PU}{\9035\012}% U+1D0A  
 17533 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textscK (tipx)  
 17534 \DeclareTextCommand{\textPUscK}{PU}{\9035\013}% U+1D0B  
 17535 %\* \textPUscK -> \textscK (tipx)  
 17536 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscM (tipx)  
 17537 \DeclareTextCommand{\textPUscM}{PU}{\9035\015}% U+1D0D  
 17538 %\* \textPUscM -> \textscM (tipx)  
 17539 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscP (tipx)  
 17540 \DeclareTextCommand{\textPUscP}{PU}{\9035\030}% U+1D18  
 17541 %\* \textPUscP -> \textscP (tipx)  
 17542 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)  
 17543 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19  
 17544 %\* \textPUrevscr -> \textrevscr (tipx)  
 17545 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscU (tipa), \scu (wsuipa)  
 17546 \DeclareTextCommand{\textscU}{PU}{\9035\034}% U+1D1C  
 17547 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I  
 17548 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}% U+1D62  
 17549 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R  
 17550 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}% U+1D63  
 17551 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U  
 17552 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}% U+1D64  
 17553 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V  
 17554 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}% U+1D65  
 17555 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA  
 17556 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}% U+1D66  
 17557 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA  
 17558 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}% U+1D67  
 17559 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO  
 17560 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}% U+1D68  
 17561 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI



17562 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%\* U+1D69  
 17563 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI  
 17564 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%\* U+1D6A  
 17565 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;  
 17566 % \barsci (wsuipa)  
 17567 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%\* U+1D7B  
 17568 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)  
 17569 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%\* U+1D7D  
 17570 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;  
 17571 % \barscu (wsuipa)  
 17572 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%\* U+1D7E

#### 51.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

17573 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-  
 trhooka (tipx)  
 17574 \DeclareTextCommand{\textPUrhooka}{PU}{\9035\217}% U+1D8F  
 17575 %\* \textPUrhooka -> \textrhooka (tipx)  
 17576 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-  
 taild (tipa)  
 17577 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%\* U+1D91  
 17578 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-  
 trhooke (tipx)  
 17579 \DeclareTextCommand{\textPUrhooke}{PU}{\9035\222}% U+1D92  
 17580 %\* \textPUrhooke -> \textrhooke (tipx)  
 17581 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;  
 17582 % \textrhookepsilon (tipx)  
 17583 \DeclareTextCommand{\textPUrhookepsilon}{PU}{\9035\223}% U+1D93  
 17584 %\* \textPUrhookepsilon -> \textrhookepsilon (tipx)  
 17585 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;  
 17586 % \textrhookopeno (tipx)  
 17587 \DeclareTextCommand{\textPUrhookopeno}{PU}{\9035\227}% U+1D97  
 17588 %\* \textPUrhookopeno -> \textrhookopeno (tipx)

#### 51.2.15 Latin Extended Additional: U+1E00 to U+1EFF

17589 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow  
 17590 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00  
 17591 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow  
 17592 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01  
 17593 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 17594 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02  
 17595 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 17596 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03  
 17597 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow  
 17598 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04  
 17599 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow  
 17600 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05  
 17601 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 17602 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
 17603 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 17604 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
 17605 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 17606 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
 17607 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 17608 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
 17609 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow  
 17610 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C  
 17611 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow

17612 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D  
17613 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
17614 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
17615 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
17616 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
17617 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
17618 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
17619 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
17620 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
17621 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-  
cumflexbelow  
17622 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12  
17623 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-  
cumflexbelow  
17624 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13  
17625 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;  
17626 % E macrongrave  
17627 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14  
17628 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;  
17629 % e macrongrave  
17630 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15  
17631 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;  
17632 % E macronacute  
17633 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16  
17634 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;  
17635 % e macronacute  
17636 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17  
17637 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-  
cumflexbelow  
17638 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18  
17639 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-  
cumflexbelow  
17640 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19  
17641 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow  
17642 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A  
17643 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow  
17644 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B  
17645 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
17646 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
17647 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
17648 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
17649 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
17650 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
17651 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
17652 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
17653 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
17654 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
17655 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
17656 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
17657 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow  
17658 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24  
17659 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow  
17660 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25  
17661 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
17662 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
17663 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
17664 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27

17665 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
17666 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
17667 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
17668 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
17669 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow  
17670 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A  
17671 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow  
17672 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B  
17673 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow  
17674 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C  
17675 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow  
17676 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D  
17677 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
17678 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
17679 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
17680 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
17681 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow  
17682 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32  
17683 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow  
17684 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33  
17685 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
17686 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
17687 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
17688 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
17689 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow  
17690 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36  
17691 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow  
17692 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37  
17693 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
17694 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
17695 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
17696 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
17697 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-  
cumflexbelow  
17698 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C  
17699 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-  
cumflexbelow  
17700 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D  
17701 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
17702 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
17703 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
17704 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
17705 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
17706 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
17707 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
17708 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
17709 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow  
17710 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42  
17711 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow  
17712 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43  
17713 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
17714 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
17715 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
17716 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
17717 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow  
17718 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46  
17719 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow

17720 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47  
17721 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
17722 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
17723 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
17724 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
17725 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-  
cumflexbelow  
17726 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A  
17727 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-  
cumflexbelow  
17728 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B  
17729 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;  
17730 % Omacrongrave  
17731 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50  
17732 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;  
17733 % omacrongrave  
17734 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51  
17735 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;  
17736 % Omacronacute  
17737 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52  
17738 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;  
17739 % omacronacute  
17740 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53  
17741 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
17742 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
17743 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
17744 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
17745 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
17746 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
17747 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
17748 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
17749 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
17750 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
17751 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
17752 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
17753 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow  
17754 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A  
17755 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow  
17756 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B  
17757 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
17758 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
17759 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
17760 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
17761 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
17762 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
17763 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
17764 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
17765 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow  
17766 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62  
17767 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow  
17768 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63  
17769 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent  
17770 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A  
17771 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent  
17772 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B  
17773 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow  
17774 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C

17775 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow  
17776 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D  
17777 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
17778 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
17779 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
17780 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
17781 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-  
cumflexbelow  
17782 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70  
17783 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-  
cumflexbelow  
17784 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71  
17785 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-  
sisbelow  
17786 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72  
17787 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-  
sisbelow  
17788 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73  
17789 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow  
17790 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74  
17791 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow  
17792 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75  
17793 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-  
cumflexbelow  
17794 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76  
17795 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-  
cumflexbelow  
17796 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77  
17797 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
17798 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
17799 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
17800 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
17801 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow  
17802 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E  
17803 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow  
17804 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F  
17805 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
17806 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
17807 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
17808 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
17809 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
17810 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
17811 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
17812 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
17813 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
17814 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
17815 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
17816 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
17817 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
17818 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
17819 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
17820 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
17821 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow  
17822 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88  
17823 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow  
17824 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89  
17825 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent

17826 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
17827 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
17828 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
17829 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
17830 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
17831 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
17832 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
17833 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
17834 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
17835 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
17836 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
17837 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
17838 \DeclareTextCompositeCommand{^}{PU}{Z}{\9036\220}% U+1E90  
17839 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
17840 \DeclareTextCompositeCommand{^}{PU}{z}{\9036\221}% U+1E91  
17841 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow  
17842 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92  
17843 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow  
17844 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93  
17845 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
17846 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
17847 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
17848 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
17849 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
17850 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
17851 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
17852 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
17853 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
17854 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
17855 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
17856 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
17857 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-  
taccent  
17858 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
17859 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow  
17860 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
17861 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow  
17862 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
17863 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow  
17864 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
17865 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow  
17866 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
17867 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
17868 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
17869 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
17870 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
17871 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow  
17872 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
17873 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow  
17874 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
17875 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow  
17876 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
17877 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow  
17878 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
17879 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow  
17880 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
17881 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow

17882 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
 17883 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 17884 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2  
 17885 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 17886 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 17887 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow  
 17888 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4  
 17889 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow  
 17890 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 17891 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 17892 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 17893 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 17894 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

### 51.2.16 General Punctuation: U+2000 to U+206F

17895 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner  
 17896 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 17897 % U+2013 EN DASH; endash  
 17898 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 17899 % U+2014 EM DASH; emdash  
 17900 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 17901 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 17902 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 17903 %\* \textbardbl -> \textdoublevertline (tipa)  
 17904 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 17905 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 17906 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 17907 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 17908 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 17909 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 17910 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 17911 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 17912 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 17913 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 17914 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 17915 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 17916 % U+2020 DAGGER; dagger  
 17917 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%\* U+2020  
 17918 %\* \textdagger -> \dag (LaTeX)  
 17919 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
 17920 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 17921 %\* \textdaggerdbl -> \ddagger (LaTeX)  
 17922 %\* \textdaggerdbl -> \ddag (LaTeX)  
 17923 % U+2022 BULLET; bullet  
 17924 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%\* U+2022  
 17925 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)  
 17926 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%\* U+2025  
 17927 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 17928 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 17929 %\* \textellipsis -> \mathellipsis  
 17930 % U+2030 PER MILLE SIGN; perthousand  
 17931 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 17932 % U+2031 PER TEN THOUSAND SIGN  
 17933 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 17934 % U+2032 PRIME; minute; \prime (MnSymbol)  
 17935 \DeclareTextCommand{\textprime}{PU}{\9040\062}%\* U+2032  
 17936 % U+2033 DOUBLE PRIME; \second (mathabx)

17937 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%\* U+2033  
 17938 % U+2034 TRIPLE PRIME; \third (mathabx)  
 17939 \DeclareTextCommand{\textthird}{PU}{\9040\064}%\* U+2034  
 17940 % U+2035 REVERSED PRIME; \backprime (AmS)  
 17941 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%\* U+2035  
 17942 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 17943 \DeclareTextCommand{\guilsingleft}{PU}{\9040\071}% U+2039  
 17944 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 singright  
 17945 \DeclareTextCommand{\guilsingright}{PU}{\9040\072}% U+203A  
 17946 % U+203B REFERENCE MARK; referencemark  
 17947 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 17948 % U+203D INTERROBANG  
 17949 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 17950 % U+2044 FRACTION SLASH; fraction  
 17951 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 17952 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 17953 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 17954 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 17955 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 17956 % U+2052 COMMERCIAL MINUS SIGN  
 17957 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052  
 17958 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)  
 17959 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%\* U+2056  
 17960 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)  
 17961 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%\* U+2057  
 17962 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)  
 17963 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%\* U+2058

### 51.2.17 Superscripts and Subscripts: U+2070 to U+209F

17964 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 17965 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%\* U+2070  
 17966 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I  
 17967 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%\* U+2071  
 17968 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 17969 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%\* U+2074  
 17970 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 17971 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%\* U+2075  
 17972 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 17973 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%\* U+2076  
 17974 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 17975 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%\* U+2077  
 17976 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 17977 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%\* U+2078  
 17978 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 17979 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%\* U+2079  
 17980 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 17981 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%\* U+207A  
 17982 % U+207B SUPERSCRIPT MINUS  
 17983 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%\* U+207B  
 17984 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 17985 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%\* U+207C  
 17986 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 17987 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%\* U+207D  
 17988 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 17989 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%\* U+207E



17990 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
17991 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%\* U+207F  
17992 % U+2080 SUBSCRIPT ZERO; zeroinferior  
17993 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%\* U+2080  
17994 % U+2081 SUBSCRIPT ONE; oneinferior  
17995 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%\* U+2081  
17996 % U+2082 SUBSCRIPT TWO; twoinferior  
17997 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%\* U+2082  
17998 % U+2083 SUBSCRIPT THREE; threeinferior  
17999 \DeclareTextCommand{\textthreeminferior}{PU}{\9040\203}%\* U+2083  
18000 % U+2084 SUBSCRIPT FOUR; fourinferior  
18001 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%\* U+2084  
18002 % U+2085 SUBSCRIPT FIVE; fiveinferior  
18003 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%\* U+2085  
18004 % U+2086 SUBSCRIPT SIX; sixinferior  
18005 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%\* U+2086  
18006 % U+2087 SUBSCRIPT SEVEN; seveninferior  
18007 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%\* U+2087  
18008 % U+2088 SUBSCRIPT EIGHT; eightinferior  
18009 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%\* U+2088  
18010 % U+2089 SUBSCRIPT NINE; nineinferior  
18011 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%\* U+2089  
18012 % U+208A SUBSCRIPT PLUS SIGN  
18013 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%\* U+208A  
18014 % U+208B SUBSCRIPT MINUS  
18015 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%\* U+208B  
18016 % U+208C SUBSCRIPT EQUALS SIGN  
18017 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%\* U+208C  
18018 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
18019 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%\* U+208D  
18020 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
18021 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%\* U+208E  
18022 % U+2090 LATIN SUBSCRIPT SMALL LETTER A  
18023 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%\* U+2090  
18024 % U+2091 LATIN SUBSCRIPT SMALL LETTER E  
18025 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%\* U+2091  
18026 % U+2092 LATIN SUBSCRIPT SMALL LETTER O  
18027 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%\* U+2092  
18028 % U+2093 LATIN SUBSCRIPT SMALL LETTER X  
18029 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%\* U+2093  
18030 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA  
18031 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%\* U+2094  
18032 % U+2095 LATIN SUBSCRIPT SMALL LETTER H  
18033 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%\* U+2095  
18034 % U+2096 LATIN SUBSCRIPT SMALL LETTER K  
18035 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%\* U+2096  
18036 % U+2097 LATIN SUBSCRIPT SMALL LETTER L  
18037 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%\* U+2097  
18038 % U+2098 LATIN SUBSCRIPT SMALL LETTER M  
18039 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%\* U+2098  
18040 % U+2099 LATIN SUBSCRIPT SMALL LETTER N  
18041 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%\* U+2099  
18042 % U+209A LATIN SUBSCRIPT SMALL LETTER P  
18043 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%\* U+209A  
18044 % U+209B LATIN SUBSCRIPT SMALL LETTER S  
18045 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%\* U+209B  
18046 % U+209C LATIN SUBSCRIPT SMALL LETTER T

18047 \DeclareTextCommand{\textttinferior}{PU}{\9040\234}%\* U+209C

### 51.2.18 Currency Symbols: U+20A0 to U+20CF

18048 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
18049 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
18050 % U+20A4 LIRA SIGN; afii08941, \*lira  
18051 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
18052 % U+20A6 NAIRA SIGN  
18053 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
18054 % U+20A7 PESETA SIGN; peseta  
18055 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
18056 % U+20A9 WON SIGN; won  
18057 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
18058 % U+20AB DONG SIGN; dong  
18059 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
18060 % U+20AC EURO SIGN; \*Euro, euro  
18061 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
18062 %\* \texteuro -> \EurDig (marvosym)  
18063 %\* \texteuro -> \EURdig (marvosym)  
18064 %\* \texteuro -> \EurHv (marvosym)  
18065 %\* \texteuro -> \EURhv (marvosym)  
18066 %\* \texteuro -> \EurCr (marvosym)  
18067 %\* \texteuro -> \EURcr (marvosym)  
18068 %\* \texteuro -> \EurTm (marvosym)  
18069 %\* \texteuro -> \EURtm (marvosym)  
18070 %\* \texteuro -> \Eur (marvosym)  
18071 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)  
18072 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%\* U+20B0  
18073 %\* \textDeleatur -> \Denarius (marvosym)  
18074 % U+20B1 PESO SIGN  
18075 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
18076 % U+20B2 GUARANI SIGN  
18077 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

### 51.2.19 Letterlike Symbols: U+2100 to U+214F

18078 % U+2103 DEGREE CELSIUS; centigrade  
18079 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
18080 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)  
18081 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%\* U+210F  
18082 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)  
18083 \DeclareTextCommand{\textIm}{PU}{\9041\021}%\* U+2111  
18084 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)  
18085 \DeclareTextCommand{\textell}{PU}{\9041\023}%\* U+2113  
18086 % U+2116 NUMERO SIGN; \*afii61352, numero  
18087 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
18088 % U+2117 SOUND RECORDING COPYRIGHT  
18089 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
18090 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);  
18091 % weierstrass; \wp (LaTeX)  
18092 \DeclareTextCommand{\textwp}{PU}{\9041\030}%\* U+2118  
18093 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)  
18094 \DeclareTextCommand{\textRe}{PU}{\9041\034}%\* U+211C  
18095 % U+211E PRESCRIPTION TAKE; prescription  
18096 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
18097 % U+2120 SERVICE MARK  
18098 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120

18099 % U+2122 TRADE MARK SIGN; trademark  
 18100 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 18101 % U+2126 OHM SIGN; Ohm, Omega  
 18102 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 18103 % U+2127 INVERTED OHM SIGN  
 18104 \DeclareTextCommand{\textmho}{PU}{\9041\047}%\* U+2127  
 18105 %\* \textmho -> \agemO (wasysym)  
 18106 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)  
 18107 \DeclareTextCommand{\textriota}{PU}{\9041\051}%\* U+2129  
 18108 % U+212B ANGSTROM SIGN; angstrom  
 18109 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 18110 % U+212E ESTIMATED SYMBOL; estimated  
 18111 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 18112 %\* \textestimated -> \EstimatedSign (marvosym)  
 18113 %\* \textestimated -> \Ecommerce (marvosym)  
 18114 % U+2132 TURNED CAPITAL F; \Finv (AmS)  
 18115 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%\* U+2132  
 18116 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)  
 18117 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%\* U+2135  
 18118 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)  
 18119 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%\* U+2136  
 18120 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)  
 18121 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%\* U+2137  
 18122 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)  
 18123 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%\* U+2138  
 18124 % U+213B FACSIMILE SIGN; \fax (marvosym)  
 18125 \DeclareTextCommand{\textfax}{PU}{\9041\073}%\* U+213B  
 18126 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game  
 18127 \DeclareTextCommand{\textGame}{PU}{\9041\101}%\* U+2141  
 18128 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)  
 18129 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B  
 18130 %\* \textinvamp -> \bindnasrepma (stmaryrd)  
 18131 %\* \textinvamp -> \parr (cml)

### 51.2.20 Number Forms: U+2150 to U+218F

18132 % U+2150 VULGAR FRACTION ONE SEVENTH  
 18133 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150  
 18134 % U+2151 VULGAR FRACTION ONE NINTH  
 18135 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151  
 18136 % U+2152 VULGAR FRACTION ONE TENTH  
 18137 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152  
 18138 % U+2153 VULGAR FRACTION ONE THIRD; onethird  
 18139 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153  
 18140 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds  
 18141 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154  
 18142 % U+2155 VULGAR FRACTION ONE FIFTH  
 18143 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155  
 18144 % U+2156 VULGAR FRACTION TWO FIFTHS  
 18145 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156  
 18146 % U+2157 VULGAR FRACTION THREE FIFTHS  
 18147 \DeclareTextCommand{\textthreelfths}{PU}{\9041\127}% U+2157  
 18148 % U+2158 VULGAR FRACTION FOUR FIFTHS  
 18149 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158  
 18150 % U+2159 VULGAR FRACTION ONE SIXTH  
 18151 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159  
 18152 % U+215A VULGAR FRACTION FIVE SIXTHS  
 18153 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A

18154 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth  
 18155 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B  
 18156 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths  
 18157 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C  
 18158 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths  
 18159 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D  
 18160 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths  
 18161 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E  
 18162 % U+2184 LATIN SMALL LETTER REVERSED C  
 18163 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184  
 18164 % U+2189 VULGAR FRACTION ZERO THIRDS  
 18165 \DeclareTextCommand{\textzer thirds}{PU}{\9041\211}% U+2189

### 51.2.21 Arrows: U+2190 to U+21FF

18166 % U+2190 LEFTWARDS ARROW; arrowleft  
 18167 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%\* U+2190  
 18168 % U+2191 UPWARDS ARROW; arrowup  
 18169 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%\* U+2191  
 18170 % U+2192 RIGHTWARDS ARROW; arrowright  
 18171 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%\* U+2192  
 18172 %\* \textrightarrow -> \MVRightArrow (marvosym)  
 18173 %\* \textrightarrow -> \MVRightarrow (marvosym)  
 18174 % U+2193 DOWNWARDS ARROW; arrowdown  
 18175 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%\* U+2193  
 18176 %\* \textdownarrow -> \MVarrowDown (marvosym)  
 18177 %\* \textdownarrow -> \Force (marvosym)  
 18178 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightarrow (LaTeX)  
 18179 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\224}%\* U+2194  
 18180 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)  
 18181 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%\* U+2195  
 18182 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)  
 18183 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%\* U+2196  
 18184 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)  
 18185 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%\* U+2197  
 18186 %\* \textnearrow -> \textglobrise (tipa)  
 18187 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)  
 18188 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%\* U+2198  
 18189 %\* \textsearrow -> \textglobfall (tipa)  
 18190 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)  
 18191 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%\* U+2199  
 18192 % U+219A LEFTWARDS ARROW WITH STROKE; \nleftarrow (AmS)  
 18193 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%\* U+219A  
 18194 % U+219B RIGHTWARDS ARROW WITH STROKE; \nrightarrow (AmS)  
 18195 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%\* U+219B  
 18196 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)  
 18197 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%\* U+219E  
 18198 % \ntwoheadleftarrow (txfonts/pxfonts)  
 18199 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%\* U+219E U+0338  
 18200 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)  
 18201 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%\* U+219F  
 18202 % U+21A0 RIGHTWARDS TWO HEADED ARROW;  
 18203 % \twoheadrightarrow (AmS)  
 18204 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%\* U+21A0  
 18205 % \ntwoheadrightarrow (txfonts/pxfonts)  
 18206 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%\* U+21A0 U+0338  
 18207 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-  
 Symbol)

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18208 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
18209 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
18210 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
18211 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
18212 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
18213 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
18214 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
18215 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
18216 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
18217 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
18218 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
18219 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
18220 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
18221 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
18222 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
18223 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightharpoonup (AmS)
18224 \DeclareTextCommand{\textleftrightharpoonup}{PU}{\9041\256}%* U+21AE
18225 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
18226 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
18227 %* \textlightning -> \Lightning (marvosym)
18228 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
18229 % \dsh (mathabx)
18230 \DeclareTextCommand{\textdsh}{PU}{\9041\265}%* U+21B5
18231 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
18232 % \curvearrowleft (AmS)
18233 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
18234 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
18235 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
18236 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
    barbut;
18237 % \leftharpoonup (LaTeX)
18238 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
18239 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
18240 % \leftharpoondown (LaTeX)
18241 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
18242 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
18243 % \upharpoonright (AmS)
18244 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
18245 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
18246 % \upharpoonleft (AmS)
18247 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
18248 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
    barbut
18249 % \rightharpoonup (LaTeX)
18250 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
18251 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
18252 % \rightharpoondown (LaTeX)
18253 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
18254 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
18255 % \downharpoonright (AmS)
18256 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
18257 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
18258 % \downharpoonleft (AmS)
18259 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
18260 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
18261 % \rightarrowoverleft; \rightleftarrows (MnSymbol)
18262 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4

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18263 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; arrowupleftofdown;  
 18264 % \updownarrows (MnSymbol)  
 18265 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%\* U+21C5  
 18266 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleftoverright;  
 18267 % \leftrightarrows (AmS)  
 18268 \DeclareTextCommand{\textleftrightarrows}{PU}{\9041\306}%\* U+21C6  
 18269 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)  
 18270 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%\* U+21C7  
 18271 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)  
 18272 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%\* U+21C8  
 18273 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)  
 18274 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%\* U+21C9  
 18275 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)  
 18276 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%\* U+21CA  
 18277 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;  
 18278 % \leftrightharpoons (AmS);  
 18279 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%\* U+21CB  
 18280 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;  
 18281 % \rightleftharpoons (LaTeX, AmS)  
 18282 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%\* U+21CC  
 18283 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftdblstroke;  
 18284 % \nLeftarrow (AmS)  
 18285 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%\* U+21CD  
 18286 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightarrow (AmS)  
 18287 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%\* U+21CE  
 18288 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightdblstroke;  
 18289 % \nRightarrow (AmS)  
 18290 \DeclareTextCommand{\textnRightarrow}{PU}{\9041\317}%\* U+21CF  
 18291 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;  
 18292 % \Leftarrow (LaTeX)  
 18293 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%\* U+21D0  
 18294 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)  
 18295 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%\* U+21D1  
 18296 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;  
 18297 % \Rightarrow (LaTeX)  
 18298 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%\* U+21D2  
 18299 %\* \textRightarrow -> \Conclusion (marvosym)  
 18300 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbl down; \Downarrow (LaTeX)  
 18301 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%\* U+21D3  
 18302 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;  
 18303 % \Leftrightarrow (LaTeX)  
 18304 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%\* U+21D4  
 18305 %\* \textLeftrightarrow -> \Equivalence (marvosym)  
 18306 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)  
 18307 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%\* U+21D5  
 18308 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)  
 18309 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%\* U+21D6  
 18310 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)  
 18311 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%\* U+21D7  
 18312 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)  
 18313 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%\* U+21D8

18314 % U+21D9 SOUTH WEST DOUBLE ARROW; \Swarrow (MnSymbol)  
 18315 \DeclareTextCommand{\textSwarrow}{PU}{\9041\331}%\* U+21D9  
 18316 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)  
 18317 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%\* U+21DA  
 18318 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)  
 18319 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%\* U+21DB  
 18320 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)  
 18321 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%\* U+21DC  
 18322 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)  
 18323 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%\* U+21DD  
 18324 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;  
 18325 % \dashleftarrow (AmS)  
 18326 \DeclareTextCommand{\texdashleftarrow}{PU}{\9041\340}%\* U+21E0  
 18327 %\* \texdashleftarrow -> \dashedleftarrow (MnSymbol)  
 18328 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (Mn-  
 Symbol)  
 18329 \DeclareTextCommand{\texdashuparrow}{PU}{\9041\341}%\* U+21E1  
 18330 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightar-  
 row (AmS)  
 18331 \DeclareTextCommand{\texdashrightarrow}{PU}{\9041\342}%\* U+21E2  
 18332 %\* \texdashrightarrow -> \dashedrightarrow (MnSymbol)  
 18333 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownar-  
 row (MnSymbol)  
 18334 \DeclareTextCommand{\texdashdownarrow}{PU}{\9041\343}%\* U+21E3  
 18335 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)  
 18336 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%\* U+21E8  
 18337 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;  
 18338 % \downuparrows (MnSymbol)  
 18339 \DeclareTextCommand{\texdownuparrows}{PU}{\9041\365}%\* U+21F5  
 18340 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)  
 18341 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%\* U+21FD  
 18342 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)  
 18343 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%\* U+21FE  
 18344 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightharowtrian-  
 gle (stmaryrd)  
 18345 \DeclareTextCommand{\textleftrightharowtriangle}{PU}{\9041\377}%\* U+21FF

## 51.2.22 Mathematical Operators: U+2200 to U+22FF

18346 % U+2200 FOR ALL; forall; \forall (LaTeX)  
 18347 \DeclareTextCommand{\textforall}{PU}{\9042\000}%\* U+2200  
 18348 % U+2201 COMPLEMENT; \complement (AmS)  
 18349 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%\* U+2201  
 18350 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)  
 18351 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%\* U+2202  
 18352 % U+2203 THERE EXISTS; existential; \exists (LaTeX)  
 18353 \DeclareTextCommand{\textexists}{PU}{\9042\003}%\* U+2203  
 18354 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)  
 18355 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%\* U+2204  
 18356 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)  
 18357 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%\* U+2205  
 18358 %\* \textemptyset -> \varnothing (AmS)  
 18359 % U+2206 INCREMENT; increment, Deta; \triangle (LaTeX)  
 18360 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%\* U+2206  
 18361 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)  
 18362 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%\* U+2207  
 18363 % U+2208 ELEMENT OF; element; \in (LaTeX)  
 18364 \DeclareTextCommand{\textin}{PU}{\9042\010}%\* U+2208

18365 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)  
18366 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%\* U+2209  
18367 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)  
18368 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%\* U+220A  
18369 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)  
18370 \DeclareTextCommand{\textni}{PU}{\9042\013}%\* U+220B  
18371 %\* \textni -> \owns (mathabx)  
18372 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)  
18373 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%\* U+220C  
18374 %\* \textnotowner -> \notni (txfonts/pxfonts)  
18375 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)  
18376 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%\* U+220D  
18377 % U+220F N-ARY PRODUCT; \prod (LaTeX)  
18378 \DeclareTextCommand{\textprod}{PU}{\9042\017}%\* U+220F  
18379 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)  
18380 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%\* U+2210  
18381 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)  
18382 \DeclareTextCommand{\textsum}{PU}{\9042\021}%\* U+2211  
18383 % U+2212 MINUS SIGN; minus  
18384 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
18385 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)  
18386 \DeclareTextCommand{\textmp}{PU}{\9042\023}%\* U+2213  
18387 % U+2214 DOT PLUS; \dotplus (AmS)  
18388 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%\* U+2214  
18389 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)  
18390 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%\* U+2215  
18391 % \DividesNot (marvosym)  
18392 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%\* U+2215 U+20D2  
18393 % U+2216 SET MINUS; \setminus (LaTeX)  
18394 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%\* U+2216  
18395 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)  
18396 \DeclareTextCommand{\textast}{PU}{\9042\027}%\* U+2217  
18397 % U+2218 RING OPERATOR; \circ (LaTeX)  
18398 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%\* U+2218  
18399 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)  
18400 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219  
18401 % U+221A SQUARE ROOT; radical  
18402 \DeclareTextCommand{\textsqrt}{PU}{\9042\032}%\* U+221A  
18403 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)  
18404 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%\* U+221D  
18405 %\* \textpropto -> \varprop (wasysym)  
18406 % U+221E INFINITY; infinity; \infty (LaTeX)  
18407 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%\* U+221E  
18408 % U+2220 ANGLE; angle; \angle (LaTeX)  
18409 \DeclareTextCommand{\textangle}{PU}{\9042\040}%\* U+2220  
18410 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)  
18411 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%\* U+2221  
18412 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)  
18413 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%\* U+2222  
18414 %\* \textsphericalangle -> \varangle (wasysym)  
18415 %\* \textsphericalangle -> \Anglesign (marvosym)  
18416 %\* \textsphericalangle -> \AngleSign (marvosym)  
18417 % U+2223 DIVIDES; divides; \mid (LaTeX)  
18418 \DeclareTextCommand{\textmid}{PU}{\9042\043}%\* U+2223  
18419 % U+2224 DOES NOT DIVIDE; \nmid (AmS)  
18420 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%\* U+2224  
18421 %\* \textnmid -> \notdivides (mathabx)



18422 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)  
18423 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%\* U+2225  
18424 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)  
18425 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%\* U+2226  
18426 %\* \textnparallel -> nUpdownline (MnSymbol)  
18427 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)  
18428 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%\* U+2227  
18429 % \owedge (stmaryrd)  
18430 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%\* U+2227 U+20DD  
18431 %\* \textowedge -> \varowedge (stmaryrd)  
18432 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)  
18433 \DeclareTextCommand{\textvee}{PU}{\9042\050}%\* U+2228  
18434 % \ovee (stmaryrd)  
18435 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%\* U+2228 U+20DD  
18436 %\* \textovee -> \varovee (stmaryrd)  
18437 % U+2229 INTERSECTION; intersection; \cap (LaTeX)  
18438 \DeclareTextCommand{\textcap}{PU}{\9042\051}%\* U+2229  
18439 % U+222A UNION; union; \cup (LaTeX)  
18440 \DeclareTextCommand{\textcup}{PU}{\9042\052}%\* U+222A  
18441 % U+222B INTEGRAL; integral; \int (LaTeX)  
18442 \DeclareTextCommand{\textint}{PU}{\9042\053}%\* U+222B  
18443 %\* \textint -> \varint (wasysym)  
18444 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)  
18445 \DeclareTextCommand{\textiint}{PU}{\9042\054}%\* U+222C  
18446 % U+222D TRIPLE INTEGRAL; \iiint (AmS)  
18447 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%\* U+222D  
18448 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)  
18449 \DeclareTextCommand{\textoint}{PU}{\9042\056}%\* U+222E  
18450 %\* \textoint -> \varoint (wasysym)  
18451 % U+222F SURFACE INTEGRAL; \oiint (wasysym)  
18452 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%\* U+222F  
18453 % U+2232 CLOCKWISE CONTOUR INTEGRAL;  
18454 % \ointclockwise (txfonts/pxfonts)  
18455 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%\* U+2232  
18456 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrackwise (tx-  
font/pxfonts)  
18457 \DeclareTextCommand{\textointctrackwise}{PU}{\9042\063}%\* U+2233  
18458 % U+2234 THEREFORE; therefore; \therefore (AmS)  
18459 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%\* U+2234  
18460 %\* \texttherefore -> uptherefore (MnSymbol)  
18461 % U+2235 BECAUSE; because; \because (AmS)  
18462 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%\* U+2235  
18463 %\* \textbecause -> \downtherefore (MnSymbol)  
18464 % U+2236 RATIO; \vdotdot (MnSymbol)  
18465 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%\* U+2236  
18466 % U+2237 PROPORTION; \squaredots (MnSymbol)  
18467 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%\* U+2237  
18468 % U+2238 DOT MINUS; \dotminus (MnSymbol)  
18469 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%\* U+2238  
18470 %\* \textdotminus -> \textdotdiv (mathabx)  
18471 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)  
18472 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%\* U+2239  
18473 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)  
18474 \DeclareTextCommand{\textsim}{PU}{\9042\074}%\* U+223C  
18475 %\* \textsim -> \AC (wasysym)  
18476 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)  
18477 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%\* U+223D

18478 % \nbacksim (txfonts/pxfonts)  
18479 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%\* U+223D U+0338  
18480 % U+2240 WREATH PRODUCT; \wr (LaTeX)  
18481 \DeclareTextCommand{\textwr}{PU}{\9042\100}%\* U+2240  
18482 %\* \textwr -> \wreath (MnSymbol)  
18483 % U+2241 NOT TILDE; \nsim (AmS)  
18484 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%\* U+2241  
18485 % U+2242 MINUS TILDE; \eqsim (MnSymbol)  
18486 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%\* U+2242  
18487 % \neqsim (MnSymbol)  
18488 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%\* U+2242 U+0338  
18489 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (LaTeX)  
18490 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%\* U+2243  
18491 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)  
18492 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%\* U+2244  
18493 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)  
18494 \DeclareTextCommand{\textcong}{PU}{\9042\105}%\* U+2245  
18495 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;  
18496 % \ncong (AmS)  
18497 \DeclareTextCommand{\textncong}{PU}{\9042\107}%\* U+2247  
18498 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)  
18499 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%\* U+2248  
18500 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts)  
18501 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%\* U+2249  
18502 %\* \textnapprox -> \nthickapprox (txfonts/pxfonts)  
18503 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)  
18504 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%\* U+224A  
18505 % \napproxeq (txfonts/pxfonts)  
18506 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%\* U+224A U+0338  
18507 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)  
18508 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%\* U+224B  
18509 %\* \texttriplesim -> \VHF (wasysym)  
18510 % \ntriplesim (MnSymbol)  
18511 \DeclareTextCommand{\textntriplesim}{PU}{\9042\113\83\070}%\* U+224B U+0338  
18512 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)  
18513 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%\* U+224C  
18514 % \nbackcong (MnSymbol)  
18515 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%\* U+224C U+0338  
18516 % U+224D EQUIVALENT TO; \asymp (LaTeX)  
18517 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%\* U+224D  
18518 % \nasymp (txfonts/pxfonts)  
18519 \DeclareTextCommand{\textnasymp}{PU}{\9042\115\83\070}%\* U+224D U+0338  
18520 %\* \textnasymp -> \notasympt (mathabx)  
18521 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)  
18522 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%\* U+224E  
18523 % \nBumpeq (txfonts/pxfonts)  
18524 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%\* U+224E U+0338  
18525 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)  
18526 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%\* U+224F  
18527 % \nbumpeq (txfonts/pxfonts)  
18528 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%\* U+224F U+0338  
18529 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)  
18530 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%\* U+2250  
18531 % \ndoteq (MnSymbol)  
18532 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%\* U+2250 U+0338  
18533 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;

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18534 % \doteqdot (AmS)
18535 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
18536 %* \textdoteqdot -> \Doteq (MnSymbol)
18537 % \nDoteq (MnSymbol)
18538 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%* U+2251 U+0338
18539 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
qualorimage;
18540 % \fallingdotseq (AmS)
18541 \DeclareTextCommand{\textfallingdotseq}{PU}{\9042\122}%* U+2252
18542 % \nfallingdotseq (MnSymbol)
18543 \DeclareTextCommand{\textnfallingdotseq}{PU}{\9042\122\83\070}%* U+2252 U+0338
18544 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapprox-
matelyequal;
18545 % \risingdotseq (AmS)
18546 \DeclareTextCommand{\textrisingdotseq}{PU}{\9042\123}%* U+2253
18547 % \nrisingdotseq (MnSymbol)
18548 \DeclareTextCommand{\textnrisingdotseq}{PU}{\9042\123\83\070}%* U+2253 U+0338
18549 % U+2254 COLON EQUALS; \colonequals (colonequals)
18550 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254
18551 % U+2255 EQUALS COLON; \equalscolon (colonequals)
18552 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
18553 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
18554 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
18555 % \neqcirc (MnSymbol)
18556 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%* U+2256 U+0338
18557 % U+2257 RING EQUAL TO; \circeq (AmS)
18558 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
18559 % \ncirceq (MnSymbol)
18560 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%* U+2257 U+0338
18561 % U+2259 ESTIMATES; \hateq (MnSymbol)
18562 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
18563 %* \texthateq -> \corresponds (mathabx)
18564 %* \texthateq -> \Corresponds (marvosym)
18565 % \nhateq (MnSymbol)
18566 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%* U+2259 U+0338
18567 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
18568 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
18569 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)
18570 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
18571 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
18572 %* \textneq -> \nequal (MnSymbol)
18573 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
18574 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
18575 %* \textequiv -> \Congruent (marvosym)
18576 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)
18577 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
18578 %* \textnequiv -> \NotCongruent (marvosym)
18579 %* \textnequiv -> \notequiv (mathabx)
18580 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
18581 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
18582 \DeclareTextCommand{\textle}{PU}{\9042\144}%* U+2264
18583 %* \textleq -> \LessOrEqual (marvosym)
18584 % U+2265 GREATER-THAN OR EQUAL TO; greaterequal;
18585 % \ge (LaTeX), \geq (LaTeX)
18586 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
18587 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
18588 %* \textgeq -> \LargerOrEqual (marvosym)

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18589 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)
18590 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
18591 % \leqq (txfonts/pxfonts)
18592 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%* U+2266 U+0338
18593 % U+2267 GREATER-THAN OVER EQUAL TO; greaterorequal; \geqq (AmS)
18594 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
18595 % \ngeqq (txfonts/pxfonts)
18596 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%* U+2267 U+0338
18597 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
18598 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
18599 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18600 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18601 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18602 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
18603 % \ll (txfonts/pxfonts)
18604 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%* U+226A U+0338
18605 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18606 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18607 % \ngg (txfonts/pxfonts)
18608 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%* U+226B U+0338
18609 % U+226C BETWEEN; \between (AmS)
18610 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18611 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18612 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18613 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18614 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18615 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18616 % \nleq (AmS)
18617 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18618 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)
18619 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18620 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)
18621 \DeclareTextCommand{\textlessim}{PU}{\9042\162}%* U+2272
18622 %* \textlessim -> \apprle (wasysym)
18623 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18624 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18625 %* \textgtrsim -> \apprge (wasysym)
18626 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (txfonts/pxfonts)
18627 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%* U+2274
18628 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (txfonts/pxfonts)
18629 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%* U+2275
18630 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
18631 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
18632 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)
18633 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
18634 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (txfonts/pxfonts)
18635 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%* U+2278
18636 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (txfonts/pxfonts)
18637 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%* U+2279
18638 % U+227A PRECEDES; precedes; \prec (LaTeX)
18639 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A

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18640 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)  
18641 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%\* U+227B  
18642 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)  
18643 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%\* U+227C  
18644 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)  
18645 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%\* U+227D  
18646 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)  
18647 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%\* U+227E  
18648 % \nprecsim (txfonts/pxfonts)  
18649 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%\* U+227E U+0338  
18650 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)  
18651 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%\* U+227F  
18652 % \nsuccsim (txfonts/pxfonts)  
18653 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%\* U+227F U+0338  
18654 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)  
18655 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%\* U+2280  
18656 % U+2281 DOES NOT SUCCEED; notsucceds; \nsucc (AmS)  
18657 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%\* U+2281  
18658 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)  
18659 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%\* U+2282  
18660 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)  
18661 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%\* U+2283  
18662 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)  
18663 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%\* U+2284  
18664 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)  
18665 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%\* U+2285  
18666 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)  
18667 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%\* U+2286  
18668 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)  
18669 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%\* U+2287  
18670 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)  
18671 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%\* U+2288  
18672 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)  
18673 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%\* U+2289  
18674 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subsetneq (AmS)  
18675 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%\* U+228A  
18676 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supsetneq (AmS)  
18677 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%\* U+228B  
18678 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)  
18679 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%\* U+228D  
18680 % U+228E MULTISSET UNION; \cupplus (MnSymbol)  
18681 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%\* U+228E  
18682 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)  
18683 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%\* U+228F  
18684 % \nsqsubset (txfonts/pxfonts)  
18685 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%\* U+228F U+0338  
18686 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)  
18687 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%\* U+2290  
18688 % \nsqsupset (txfonts/pxfonts)  
18689 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%\* U+2290 U+0338  
18690 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseteq (LaTeX)  
18691 \DeclareTextCommand{\textsqsubseteq}{PU}{\9042\221}%\* U+2291  
18692 % \nsqsubseteq (txfonts/pxfonts)  
18693 \DeclareTextCommand{\textnsqsubseteq}{PU}{\9042\221\83\070}%\* U+2291 U+0338  
18694 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)

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18695 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%* U+2292
18696 % \nsqsupseteq (txfonts/pxfonts)
18697 \DeclareTextCommand{\textnsqsupseteq}{PU}{\9042\222\83\070}%* U+2292 U+0338
18698 % U+2293 SQUARE CAP; \sqcap (LaTeX)
18699 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18700 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18701 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18702 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18703 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18704 %* \textoplus -> \varoplus (stmaryrd)
18705 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18706 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18707 %* \textominus -> \varominus (stmaryrd)
18708 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18709 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18710 %* \textotimes -> \varotimes (stmaryrd)
18711 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18712 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18713 %* \textoslash -> \varoslash (stmaryrd)
18714 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18715 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18716 %* \textodot -> \varodot (stmaryrd)
18717 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18718 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18719 %* \textcircledcirc -> \ocirc (mathabx)
18720 %* \textcircledcirc -> \varocircle (stmaryrd)
18721 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18722 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18723 %* \textcircledast -> \varoast (stmaryrd)
18724 %* \textcircledast -> \oasterisk (mathabx)
18725 % U+229D CIRCLED DASH; \circleddash (AmS)
18726 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18727 % U+229E SQUARED PLUS; \boxplus (AmS)
18728 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18729 % U+229F SQUARED MINUS; \boxminus (AmS)
18730 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18731 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18732 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
18733 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18734 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18735 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18736 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18737 %* \textvdash -> \rightvdash (MnSymbol)
18738 % U+22A3 LEFT TACK; tackleft; \dashv (LaTeX)
18739 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18740 %* \textdashv -> \leftvdash (MnSymbol)
18741 %* \ndashv (mathabx)
18742 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
18743 %* \textndashv -> \nleftvdash (MnSymbol)
18744 % U+22A4 DOWN TACK (=top); tackdown; \top (LaTeX)
18745 \DeclareTextCommand{\texttop}{PU}{\9042\244}%* U+22A4
18746 %* \texttop -> \downvdash (MnSymbol)
18747 %* \ndownvdash (MnSymbol)
18748 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
18749 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18750 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18751 %* \textbot -> \upvdash (MnSymbol)

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18752 % \nupvdash (MnSymbol)
18753 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
18754 %* \textnupvdash -> \nperp (MnSymbol)
18755 % U+22A8 TRUE; \vDash (AmS)
18756 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18757 %* \textvDash -> \models (LaTeX)
18758 %* \textvDash -> \rightmodels (MnSymbol)
18759 % U+22A9 FORCES; \Vdash (AmS)
18760 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18761 %* \textVdash -> \rightVdash (MnSymbol)
18762 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18763 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18764 % \nVdash (mathabx)
18765 \DeclareTextCommand{\textnVdash}{PU}{\9042\252\83\070}%* U+22AA U+0338
18766 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18767 % \VDash (mathabx)
18768 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18769 %* \textVDash -> \rightModels (MnSymbol)
18770 % U+22AC DOES NOT PROVE; \nvdash (AmS)
18771 \DeclareTextCommand{\textnvdash}{PU}{\9042\254}%* U+22AC
18772 %* \textnvdash -> \nrighvdash (MnSymbol)
18773 % U+22AD NOT TRUE; \nVDash (AmS)
18774 \DeclareTextCommand{\textnVDash}{PU}{\9042\255}%* U+22AD
18775 %* \textnVDash -> \nrighmodels (MnSymbol)
18776 %* \textnVDash -> \nmodels (MnSymbol)
18777 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)
18778 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%* U+22AE
18779 %* \textnVdash -> \nrighVdash (MnSymbol)
18780 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
      STILE; \nVDash (AmS)
18781 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18782 %* \textnVDash -> \nrighModels (MnSymbol)
18783 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18784 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18785 %* \textlhd -> \lessclosed (MnSymbol)
18786 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18787 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18788 %* \textrhd -> \gtrclosed (MnSymbol)
18789 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18790 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18791 %* \textunlhd -> \leqclosed (MnSymbol)
18792 %* \textunlhd -> \trianglelefteq (MnSymbol)
18793 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
      texsym, ...)
18794 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18795 %* \textunrhd -> \geqclosed (MnSymbol)
18796 %* \textunrhd -> \trianglerighteq (MnSymbol)
18797 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18798 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18799 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18800 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18801 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18802 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
18803 % U+22BB XOR; \veebar (AmS)
18804 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
18805 % U+22BC NAND; \barwedge (mathabx)
18806 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC

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18807 % U+22C6 STAR OPERATOR; \star (LaTeX)  
18808 \DeclareTextCommand{\textstar}{PU}{\9042\306}%\* U+22C6  
18809 % U+22C7 DIVISION TIMES; \divideontimes (AmS)  
18810 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%\* U+22C7  
18811 % U+22C8 BOWTIE; \bowtie (LaTeX)  
18812 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%\* U+22C8  
18813 %\* \textbowtie -> \Bowtie (wasysym)  
18814 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)  
18815 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%\* U+22C9  
18816 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;  
18817 % \rtimes (AmS)  
18818 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%\* U+22CA  
18819 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)  
18820 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%\* U+22CB  
18821 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)  
18822 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%\* U+22CC  
18823 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)  
18824 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%\* U+22CD  
18825 % \nbacksimeq (txfonts/pxfonts)  
18826 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%\* U+22CD U+0338  
18827 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)  
18828 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%\* U+22CE  
18829 %\* \textcurlyvee -> \varcurlyvee (stmaryrd)  
18830 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)  
18831 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%\* U+22CF  
18832 %\* \textcurlywedge -> \varcurlywedge (stmaryrd)  
18833 % U+22D0 DOUBLE SUBSET; \Subset (AmS)  
18834 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%\* U+22D0  
18835 % \nSubset (txfonts/pxfonts)  
18836 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%\* U+22D0 U+0338  
18837 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)  
18838 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%\* U+22D1  
18839 % \nSupset (txfonts/pxfonts)  
18840 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%\* U+22D1 U+0338  
18841 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)  
18842 \DeclareTextCommand{\textCap}{PU}{\9042\322}%\* U+22D2  
18843 %\* \textCap -> \doublecap (mathabx)  
18844 % U+22D3 DOUBLE UNION; \Cup (AmS)  
18845 \DeclareTextCommand{\textCup}{PU}{\9042\323}%\* U+22D3  
18846 %\* \textCup -> \doublecup (mathabx)  
18847 % U+22D4 PITCHFORK; \pitchfork (mathabx)  
18848 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%\* U+22D4  
18849 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)  
18850 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%\* U+22D6  
18851 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)  
18852 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%\* U+22D7  
18853 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)  
18854 \DeclareTextCommand{\textlll}{PU}{\9042\330}%\* U+22D8  
18855 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)  
18856 \DeclareTextCommand{\textggg}{PU}{\9042\331}%\* U+22D9  
18857 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;  
18858 % \lesseqgtr (AmS)  
18859 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%\* U+22DA  
18860 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterqualorless;  
18861 % \gtreqless (AmS)  
18862 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%\* U+22DB  
18863 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)



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18864 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
18865 % \ncurlyeqprec (mathabx)
18866 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%* U+22DE U+0338
18867 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)
18868 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
18869 % \ncurlyeqsucc (mathabx)
18870 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%* U+22DF U+0338
18871 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
18872 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
18873 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
18874 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
18875 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-
    fonts/pxfonts)
18876 \DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%* U+22E2
18877 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-
    fonts/pxfonts)
18878 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
18879 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
18880 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
18881 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
18882 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
    abx)
18883 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
18884 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
18885 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
18886 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
18887 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
18888 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
18889 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precnsim (AmS)
18890 \DeclareTextCommand{\textprecnsim}{PU}{\9042\350}%* U+22E8
18891 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succnsim (AmS)
18892 \DeclareTextCommand{\textsuccnsim}{PU}{\9042\351}%* U+22E9
18893 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
18894 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
18895 %* \textntriangleleft -> \nlessclosed (MnSymbol)
18896 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriangleright
    (AmS)
18897 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB
18898 %* \textntriangleright -> \ngtrclosed (MnSymbol)
18899 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
18900 % \ntrianglelefteq (AmS)
18901 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%* U+22EC
18902 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
18903 % \ntrianglerighteq (AmS)
18904 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%* U+22ED
18905 %* \textntrianglerighteq -> \textngeqclosed
18906 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)
18907 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%* U+22EE
18908 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)
18909 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%* U+22EF
18910 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)
18911 \DeclareTextCommand{\textudots}{PU}{\9042\360}%* U+22F0
18912 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)
18913 \DeclareTextCommand{\textddots}{PU}{\9042\361}%* U+22F1
18914 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)
18915 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%* U+22F6

```

### 51.2.23 Miscellaneous Technical: U+2300 to U+23FF

```

18916 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)
18917 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%* U+2300
18918 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)
18919 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%* U+2310
18920 % U+2311 SQUARE LOZENGE; \wasylozenge (wasysym)
18921 \DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}%* U+2311
18922 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)
18923 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%* U+2319
18924 % U+231A WATCH; \clock (wasysym)
18925 \DeclareTextCommand{\textclock}{PU}{\9043\032}%* U+231A
18926 %* \textclock -> \Clocklogo (marvosym)
18927 %* \textclock -> \ClockLogo (marvosym)
18928 % U+231C TOP LEFT CORNER; \ulcorner (AmS)
18929 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%* U+231C
18930 % U+231D TOP RIGHT CORNER; \urcorner (AmS)
18931 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%* U+231D
18932 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)
18933 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%* U+231E
18934 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)
18935 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%* U+231F
18936 % U+2322 FROWN; \frown (LaTeX)
18937 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%* U+2322
18938 % U+2323 SMILE; \smile (LaTeX)
18939 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%* U+2323
18940 % U+2328 KEYBOARD; \Keyboard (marvosym)
18941 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%* U+2328
18942 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \angle (LaTeX)
18943 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
18944 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)
18945 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%* U+232A
18946 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
18947 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
18948 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)
18949 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%* U+233C
18950 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)
18951 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}%* U+233D
18952 %* \textstmaryrdbaro -> \baro (stmaryrd)
18953 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
18954 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
18955 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
18956 % \notbackslash (wasysym)
18957 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340
18958 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxbackslash (mathabx)
18959 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%* U+2342
18960 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;
18961 % \APLleftarrowbox (wasysym)
18962 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%* U+2347
18963 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;
18964 % \APLrightarrowbox (wasysym)
18965 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%* U+2348
18966 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)
18967 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%* U+2350
18968 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;

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18969 % \APLdownarrowbox (wasysym)  
18970 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%\* U+2357  
18971 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;  
18972 % \APLinput (wasysym)  
18973 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%\* U+235E  
18974 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)  
18975 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%\* U+2370  
18976 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)  
18977 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%\* U+2393  
18978 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)  
18979 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%\* U+2394  
18980 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)  
18981 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%\* U+2395  
18982 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTI-  
CAL BAR;  
18983 % \ForwardToIndex (marvosym)  
18984 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%\* U+23ED  
18985 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTI-  
CAL BAR;  
18986 % \RewindToIndex (marvosym)  
18987 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%\* U+23EE

#### 51.2.24 Control Pictures: U+2400 to U+243F

18988 % U+2422 BLANK SYMBOL  
18989 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
18990 % U+2423 OPEN BOX; blank  
18991 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

#### 51.2.25 Optical Character Recognition: U+2440 to U+245F

18992 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)  
18993 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%\* U+244A  
18994 %\* \textbbslash -> \varparalelinv (txfonts/pxfonts)

#### 51.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

18995 % U+2460 CIRCLED DIGIT ONE; onecircle  
18996 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
18997 % U+2461 CIRCLED DIGIT TWO; twocircle  
18998 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
18999 % U+2462 CIRCLED DIGIT THREE; threecircle  
19000 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
19001 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
19002 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
19003 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
19004 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
19005 % U+2465 CIRCLED DIGIT SIX; sixcircle  
19006 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
19007 % U+2466 CIRCLED DIGIT SEVEN; sevendcircle  
19008 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
19009 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
19010 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
19011 % U+2468 CIRCLED DIGIT NINE; ninecircle  
19012 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
19013 % U+2469 CIRCLED NUMBER TEN; tencircle  
19014 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
19015 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
19016 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
19017 % U+246B CIRCLED NUMBER TWELVE; twelvecircle

19018 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
19019 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
19020 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
19021 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
19022 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
19023 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
19024 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
19025 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
19026 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
19027 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
19028 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
19029 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
19030 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
19031 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
19032 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
19033 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
19034 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
19035 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
19036 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
19037 % \CircledA (marvosym)  
19038 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%\* U+24B6  
19039 %\* \textCircledA -> \CleaningA  
19040 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
19041 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
19042 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
19043 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
19044 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
19045 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
19046 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
19047 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
19048 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
19049 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
19050 % \CleaningF (marvosym)  
19051 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%\* U+24BB  
19052 % \CleaningFF (marvosym)  
19053 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%\* U+24BB U+0332  
19054 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
19055 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
19056 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
19057 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
19058 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
19059 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
19060 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
19061 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
19062 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
19063 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
19064 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
19065 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
19066 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
19067 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
19068 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
19069 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
19070 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
19071 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
19072 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
19073 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
19074 % \CleaningP (marvosym)

19075 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%\* U+24C5  
 19076 % \CleaningPP (marvosym)  
 19077 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%\* U+24C5 U+0332  
 19078 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
 19079 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
 19080 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
 19081 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
 19082 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
 19083 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
 19084 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
 19085 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
 19086 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
 19087 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
 19088 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 19089 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
 19090 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 19091 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 19092 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 19093 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 19094 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 19095 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 19096 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 19097 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 19098 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 19099 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 19100 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 19101 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 19102 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 19103 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 19104 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 19105 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 19106 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 19107 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 19108 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 19109 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 19110 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 19111 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 19112 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 19113 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 19114 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 19115 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 19116 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 19117 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 19118 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 19119 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 19120 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 19121 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 19122 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 19123 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 19124 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 19125 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 19126 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 19127 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 19128 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 19129 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 19130 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 19131 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0

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19132 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
19133 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
19134 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
19135 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
19136 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
19137 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
19138 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
19139 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
19140 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
19141 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
19142 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
19143 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
19144 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
19145 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
19146 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
19147 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
19148 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
19149 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
19150 % U+24EA CIRCLED DIGIT ZERO
19151 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

```

### 51.2.27 Box Drawing: U+2500 to 257F

```

19152 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-
      Line (marvosym)
19153 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%* U+2504
19154 %* \textCuttingLine -> \Kutline (marvosym)
19155 %* \textCuttingLine -> \CutLine (marvosym)
19156 %* \textCuttingLine -> \Cutline (marvosym)

```

### 51.2.28 Geometric Shapes: U+25A0 to U+25FF

```

19157 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)
19158 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%* U+25B2
19159 %* \textUParrow -> \MoveUp (marvosym)
19160 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;
19161 % \bigtriangleup (LaTeX)
19162 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%* U+25B3
19163 %* \textbigtriangleup -> \APLup (wasysym)
19164 %* \textbigtriangleup -> \Bleech (marvosym)
19165 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)
19166 \DeclareTextCommand{\textForward}{PU}{\9045\266}%* U+25B6
19167 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-
      tion);
19168 % whiterightpointingtriangle; \triangleright (LaTeX)
19169 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%* U+25B7
19170 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)
19171 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%* U+25BA
19172 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)
19173 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%* U+25BC
19174 %* \textDOWNarrow -> \MoveDown (marvosym)
19175 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-
      angle;
19176 % \bigtriangledown (LaTeX)
19177 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
19178 %* \textbigtriangledown -> \APLdown (wasysym)
19179 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
19180 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0

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19181 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
restriction);
19182 % whiteleftpointingtriangle; \triangleleft (LaTeX)
19183 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
19184 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)
19185 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
19186 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
19187 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
19188 %* \textdiamond -> \Diamond (wasysym)
19189 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
19190 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
19191 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)
19192 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
19193 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
19194 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
19195 % U+25E6 WHITE BULLET; *openbullet, whitebullet
19196 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
19197 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
19198 % \boxbar (stmaryrd)
19199 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
19200 % U+25EF LARGE CIRCLE; largecircle
19201 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
19202 %* \textbigcircle -> \varbigcirc (stmaryrd)
19203 %

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### 51.2.29 Miscellaneous Symbols: U+2600 to U+26FF

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19204 % U+2601 CLOUD; \Cloud (ifsym)
19205 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
19206 % U+2605 BLACK STAR; \FiveStar (bbding)
19207 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
19208 % U+2606 WHITE STAR; \FiveStarOpen (bbding)
19209 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
19210 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)
19211 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
19212 %* \textPhone -> \Telefon (marvosym)
19213 % U+2610 BALLOT BOX; \boxempty (stmaryrd)
19214 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
19215 %* \textboxempty -> \Box (wasysym)
19216 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
19217 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
19218 %* \textCheckedbox -> \CheckedBox (marvosym)
19219 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
19220 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612
19221 %* \textCrossedbox -> \XBox (wasysym)
19222 %* \textCrossedbox -> \CrossedBox (marvosym)
19223 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)
19224 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2615
19225 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)
19226 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%* U+261A
19227 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)
19228 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%* U+261B
19229 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)
19230 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%* U+261C
19231 %* \textHandLeft -> \rightpointleft (fourier)
19232 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)
19233 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%* U+261E
19234 %* \textHandRight -> \leftpointright (fourier)

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19235 %\* \textHandRight -> \PointingHand (marvosym)  
19236 %\* \textHandRight -> \Pointinghand (marvosym)  
19237 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)  
19238 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%\* U+2622  
19239 %\* \textRadioactivity -> \Radiation (ifsym)  
19240 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)  
19241 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%\* U+2623  
19242 % U+2625 ANKH; \Ankh (marvosym)  
19243 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%\* U+2625  
19244 % U+262F YIN YANG; \YinYang (marvosym)  
19245 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%\* U+262F  
19246 %\* \textYinYang -> \Yinyang (marvosym)  
19247 %\* \textYinYang -> \YingYang (marvosym)  
19248 %\* \textYinYang -> \Yingyang (marvosym)  
19249 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)  
19250 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%\* U+2639  
19251 %\* \textfrownie -> \Frowny (marvosym)  
19252 % U+263A WHITE SMILING FACE; \smiley (wasysym)  
19253 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%\* U+263A  
19254 %\* \textsmiley -> \Smiley (marvosym)  
19255 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)  
19256 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%\* U+263B  
19257 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)  
19258 \DeclareTextCommand{\textsun}{PU}{\9046\074}%\* U+263C  
19259 %\* \textsun -> \Sun (marvosym)  
19260 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)  
19261 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%\* U+263D  
19262 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)  
19263 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%\* U+263E  
19264 % U+263F MERCURY; \mercury (wasysym)  
19265 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%\* U+263F  
19266 %\* \textmercury -> \Mercury (marvosym)  
19267 % U+2640 FEMALE SIGN; female; \female (wasysym)  
19268 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640  
19269 %\* \textPUfemale -> \textfemale (tipx)  
19270 %\* \textPUfemale -> \female (wasysym)  
19271 %\* \textPUfemale -> \venus (wasysym)  
19272 %\* \textPUfemale -> \Venus (marvosym)  
19273 %\* \textPUfemale -> \Female (marvosym)  
19274 % U+2641 EARTH; \earth (wasysym)  
19275 \DeclareTextCommand{\textearth}{PU}{\9046\101}%\* U+2641  
19276 %\* \textearth -> \Earth (marvosym)  
19277 % U+2642 MALE SIGN; male, mars; \male (wasysym)  
19278 \DeclareTextCommand{\textmale}{PU}{\9046\102}%\* U+2642  
19279 %\* \textmale -> \mars (wasysym)  
19280 %\* \textmale -> \Mars (marvosym)  
19281 %\* \textmale -> \Male (marvosym)  
19282 % U+2643 JUPITER; \jupiter (wasysym)  
19283 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%\* U+2643  
19284 %\* \textjupiter -> \Jupiter (marvosym)  
19285 % U+2644 SATURN; \saturn (wasysym)  
19286 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%\* U+2644  
19287 %\* \textsaturn -> \Saturn (marvosym)  
19288 % U+2645 URANUS; \uranus (wasysym)  
19289 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%\* U+2645  
19290 %\* \texturanus -> \Uranus (marvosym)  
19291 % U+2646 NEPTUNE; \neptune (wasysym)



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19292 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%* U+2646
19293 %* \textneptune -> \Neptune (marvosym)
19294 % U+2647 PLUTO; \pluto (wasysym)
19295 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%* U+2647
19296 %* \textpluto -> \Pluto (marvosym)
19297 % U+2648 ARIES; \aries (wasysym)
19298 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
19299 %* \textaries -> \Aries (marvosym)
19300 % U+2649 TAURUS; \taurus (wasysym)
19301 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
19302 %* \texttaurus -> \Taurus (marvosym)
19303 % U+264A GEMINI; \gemini (wasysym)
19304 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
19305 %* \textgemini -> \Gemini (marvosym)
19306 % U+264B CANCER; \cancer (wasysym)
19307 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
19308 %* \textcancer -> \Cancer (marvosym)
19309 % U+264C LEO; \leo (wasysym)
19310 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
19311 %* \textleo -> \Leo (marvosym)
19312 % U+264D VIRGO; \virgo (wasysym)
19313 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
19314 %* \textvirgo -> \Virgo (marvosym)
19315 % U+264E LIBRA; \libra (wasysym)
19316 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
19317 %* \textlibra -> \Libra (marvosym)
19318 % U+264F SCORPIO; \scorpio (wasysym)
19319 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
19320 %* \textscorpio -> \Scorpio (marvosym)
19321 % U+2650 SAGITTARIUS; \sagittarius (wasysym)
19322 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
19323 %* \textsagittarius -> \Sagittarius (marvosym)
19324 % U+2651 CAPRICORN; \capricornus (wasysym)
19325 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%* U+2651
19326 %* \textcapricornus -> \Capricorn (marvosym)
19327 % U+2652 AQUARIUS; \aquarius (wasysym)
19328 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
19329 %* \textaquarius -> \Aquarius (marvosym)
19330 % U+2653 PISCES; \pisces (wasysym)
19331 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
19332 %* \textpisces -> \Pisces (marvosym)
19333 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
19334 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
19335 %* \textspadesuitblack -> \spadesuit (MnSymbol)
19336 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
19337 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
19338 %* \textheartsuitwhite -> \Heart (marvosym)
19339 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
19340 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
19341 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
19342 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
19343 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
19344 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
19345 %* \textclubsuitblack -> \clubsuit (MnSymbol)
19346 % U+2664 WHITE SPADE SUIT; spadesuitwhite
19347 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
19348 % U+2665 BLACK HEART SUIT; heartsuitblack, heart

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19349 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665  
19350 % U+2666 BLACK DIAMOND SUIT; diamond  
19351 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666  
19352 % U+2667 WHITE CLUB SUIT; clubsuitwhite  
19353 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667  
19354 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)  
19355 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%\* U+2669  
19356 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)  
19357 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
19358 %\* \textmusicalnote -> \eighthnote (wasysym, arev)  
19359 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)  
19360 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%\* U+266B  
19361 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-  
note (arev)  
19362 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%\* U+266C  
19363 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)  
19364 \DeclareTextCommand{\textflat}{PU}{\9046\155}%\* U+266D  
19365 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)  
19366 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%\* U+266E  
19367 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)  
19368 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%\* U+266F  
19369 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)  
19370 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%\* U+2672  
19371 %\* \textrecycle -> \Recycling (marvosym)  
19372 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)  
19373 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%\* U+267F  
19374 % U+2691 BLACK FLAG; \Flag (ifsym)  
19375 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%\* U+2691  
19376 %\* \textFlag -> \VarFlag (ifsym)  
19377 % U+2692 HAMMER AND PICK; \MineSign (marvosym)  
19378 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%\* U+2692  
19379 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)  
19380 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%\* U+2694  
19381 %\* \textdsmilitary -> \textxswup (fourier)  
19382 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)  
19383 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%\* U+2695  
19384 % U+2696 SCALES; \dsjuridical (dictsym)  
19385 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%\* U+2696  
19386 % U+2697 ALEMBIC; \dschemical (dictsym)  
19387 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%\* U+2697  
19388 % U+2698 FLOWER; \dsbiological (dictsym)  
19389 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%\* U+2698  
19390 % U+269A STAFF OF HERMES; \dscommercial (dictsym)  
19391 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%\* U+269A  
19392 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)  
19393 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%\* U+269D  
19394 % U+26A0 WARNING SIGN; \danger (fourier)  
19395 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%\* U+26A0  
19396 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)  
19397 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%\* U+26A2  
19398 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)  
19399 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%\* U+26A3  
19400 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (mar-  
vosym)  
19401 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%\* U+26A4  
19402 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)  
19403 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%\* U+26A5

19404 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)  
 19405 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%\* U+26AA  
 19406 % U+26AD MARRIAGE SYMBOL  
 19407 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 19408 % U+26AE DIVORCE SYMBOL  
 19409 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE  
 19410 % U+26B2 NEUTER; \textuncrfemale (tipx)  
 19411 \DeclareTextCommand{\textPUuncrfemale}{PU}{\9046\262}% U+26B2  
 19412 %\* \textPUuncrfemale -> \textuncrfemale (tipx)  
 19413 % U+26B9 SEXTILE; \hexstar (wasysym)  
 19414 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%\* U+26B9  
 19415 % U+26BD SOCCER BALL; \Football (marvosym)  
 19416 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD  
 19417 %\* \textSoccerBall -> \Football (marvosym)  
 19418 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)  
 19419 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%\* U+26C5  
 19420 % U+26C6 RAIN; \Rain (ifsym)  
 19421 \DeclareTextCommand{\textRain}{PU}{\9046\306}%\* U+26C6  
 19422 % U+26D4 NO ENTRY; \noway (fourier)  
 19423 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%\* U+26D4  
 19424 % U+26F0 MOUNTAIN; \Mountain (ifsym)  
 19425 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%\* U+26F0  
 19426 % U+26FA TENT; \Tent (ifsym)  
 19427 \DeclareTextCommand{\textTent}{PU}{\9046\372}%\* U+26FA

### 51.2.30 Dingbats: U+2700 to U+27BF

19428 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bbding)  
 19429 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701  
 19430 %\* \textScissorRightBrokenBottom -> \CutLeft (marvosym)  
 19431 %\* \textScissorRightBrokenBottom -> \Cutright (marvosym)  
 19432 % U+2702 BLACK SCISSORS; \ScissorRight (bbding)  
 19433 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%\* U+2702  
 19434 %\* \textScissorRight -> \RightScissors (marvosym)  
 19435 %\* \textScissorRight -> \Leftscissors (marvosym)  
 19436 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bbding)  
 19437 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%\* U+2703  
 19438 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bbding)  
 19439 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%\* U+2704  
 19440 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bbding)  
 19441 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%\* U+2706  
 19442 % U+2707 TAPE DRIVE; \Tape (bbding)  
 19443 \DeclareTextCommand{\textTape}{PU}{\9047\007}%\* U+2707  
 19444 % U+2708 AIRPLANE; \Plane (bbding)  
 19445 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%\* U+2708  
 19446 % U+2709 ENVELOPE; \Envelope (bbding),  
 19447 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%\* U+2709  
 19448 %\* \textEnvelope -> \Letter (marvosym)  
 19449 % U+270C VICTORY HAND; \Peace (bbding)  
 19450 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%\* U+270C  
 19451 % U+270D WRITING HAND; \WritingHand (marvosym)  
 19452 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%\* U+270D  
 19453 %\* \textWritingHand -> \Writinghand (marvosym)  
 19454 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bbding)  
 19455 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%\* U+270E  
 19456 % U+270F PENCIL; \PencilRight (bbding)  
 19457 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%\* U+270F  
 19458 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bbding)

19459 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%\* U+2710  
 19460 % U+2711 WHITE NIB; \NibRight (bbling)  
 19461 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%\* U+2711  
 19462 % U+2712 BLACK NIB; \NibSolidRight (bbling)  
 19463 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%\* U+2712  
 19464 % U+2713 CHECK MARK; checkmark; \Checkmark (bbling)  
 19465 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%\* U+2713  
 19466 %\* \textCheckmark -> \checkmark (MnSymbol)  
 19467 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bbling)  
 19468 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%\* U+2714  
 19469 % U+2715 MULTIPLICATION X; \XSolid (bbling)  
 19470 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%\* U+2715  
 19471 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bbling)  
 19472 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%\* U+2716  
 19473 % U+2717 BALLOT X; \XSolidBrush (bbling)  
 19474 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%\* U+2717  
 19475 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bbling)  
 19476 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%\* U+2719  
 19477 % U+271A HEAVY GREEK CROSS; \Plus (bbling)  
 19478 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%\* U+271A  
 19479 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bbling)  
 19480 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%\* U+271B  
 19481 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bbling)  
 19482 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%\* U+271C  
 19483 % U+271D LATIN CROSS; \Cross (bbling)  
 19484 \DeclareTextCommand{\textCross}{PU}{\9047\035}%\* U+271D  
 19485 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bbling)  
 19486 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%\* U+271E  
 19487 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bbling)  
 19488 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%\* U+271F  
 19489 % U+2720 MALTESE CROSS; \CrossMaltese (bbling)  
 19490 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%\* U+2720  
 19491 % U+2721 STAR OF DAVID; \DavidStar (bbling)  
 19492 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%\* U+2721  
 19493 %\* \textDavidStar -> \davidstar (wasysym)  
 19494 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bbling)  
 19495 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%\* U+2722  
 19496 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bbling)  
 19497 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%\* U+2723  
 19498 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bbling)  
 19499 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%\* U+2724  
 19500 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bbling)  
 19501 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%\* U+2725  
 19502 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bbling)  
 19503 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%\* U+2726  
 19504 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bbling)  
 19505 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%\* U+2727  
 19506 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bbling)  
 19507 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%\* U+272A  
 19508 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bbling)  
 19509 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%\* U+272B  
 19510 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bbling)  
 19511 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%\* U+272C  
 19512 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bbling)  
 19513 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%\* U+272D  
 19514 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bbling)

19515 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%\* U+272E  
19516 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)  
19517 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%\* U+272F  
19518 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)  
19519 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%\* U+2730  
19520 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)  
19521 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%\* U+2731  
19522 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)  
19523 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%\* U+2732  
19524 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)  
19525 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%\* U+2734  
19526 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)  
19527 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%\* U+2735  
19528 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)  
19529 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%\* U+2736  
19530 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)  
19531 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%\* U+2737  
19532 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)  
19533 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%\* U+2738  
19534 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)  
19535 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%\* U+2739  
19536 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)  
19537 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%\* U+273A  
19538 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)  
19539 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%\* U+273B  
19540 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;  
19541 % \SixFlowerOpenCenter (bding)  
19542 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%\* U+273C  
19543 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)  
19544 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%\* U+273D  
19545 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)  
19546 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%\* U+273E  
19547 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)  
19548 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%\* U+273F  
19549 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)  
19550 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%\* U+2740  
19551 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)  
19552 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%\* U+2741  
19553 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)  
19554 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%\* U+2742  
19555 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)  
19556 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%\* U+2743  
19557 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)  
19558 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%\* U+2744  
19559 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)  
19560 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%\* U+2745  
19561 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)  
19562 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%\* U+2746  
19563 % U+2747 SPARKLE; \Sparkle (bding)  
19564 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%\* U+2747

19565 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)  
 19566 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%\* U+2748  
 19567 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)  
 19568 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%\* U+2749  
 19569 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 19570 % \EightFlowerPetalRemoved (bding)  
 19571 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%\* U+274A  
 19572 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 19573 % \EightAsterisk (bding)  
 19574 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%\* U+274B  
 19575 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)  
 19576 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%\* U+274D  
 19577 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19578 % \SquareShadowBottomRight (bding)  
 19579 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%\* U+274F  
 19580 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19581 % \SquareShadowTopRight (bding)  
 19582 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%\* U+2750  
 19583 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;  
 19584 % \SquareCastShadowBottomRight (bding)  
 19585 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%\* U+2751  
 19586 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;  
 19587 % \SquareCastShadowTopRight (bding)  
 19588 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%\* U+2752  
 19589 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (bding)  
 19590 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%\* U+2756  
 19591 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)  
 19592 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%\* U+2758  
 19593 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)  
 19594 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%\* U+2759  
 19595 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bding)  
 19596 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%\* U+275A

### 51.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

19597 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)  
 19598 \DeclareTextCommand{\textperp}{PU}{\9047\302}%\* U+27C2  
 19599 % \notperp (mathabx)  
 19600 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%\* U+27C2 U+0338  
 19601 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)  
 19602 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%\* U+27C7  
 19603 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)  
 19604 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%\* U+27D1  
 19605 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)  
 19606 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%\* U+27DC  
 19607 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 19608 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%\* U+27E6  
 19609 %\* \textlbrackdbl -> \lbracket (stmaryrd)  
 19610 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 19611 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%\* U+27E7  
 19612 %\* \textrbrackdbl -> \rrbracket (stmaryrd)

### 51.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

19613 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;  
 19614 % \circlearrowleft (AmS)  
 19615 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%\* U+27F2  
 19616 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)

19617 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%\* U+27F3  
 19618 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)  
 19619 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%\* U+27F5  
 19620 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)  
 19621 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%\* U+27F6  
 19622 % U+27F7 LONG LEFT RIGHT ARROW; \longlefttrightarrow (AmS)  
 19623 \DeclareTextCommand{\textlongleftrightarrow}{PU}{\9047\367}%\* U+27F7  
 19624 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)  
 19625 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%\* U+27F8  
 19626 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Longrightarrow (AmS)  
 19627 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%\* U+27F9  
 19628 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longleftrightarrow (AmS)  
 19629 \DeclareTextCommand{\textLongleftrightarrow}{PU}{\9047\372}%\* U+27FA  
 19630 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)  
 19631 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%\* U+27FC  
 19632 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmaps-  
 from (stmaryrd)  
 19633 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%\* U+27FD  
 19634 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmap-  
 sto (stmaryrd)  
 19635 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%\* U+27FE

### 51.2.33 Supplemental Arrows-B: U+2900 to U+297F

19636 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSym-  
 bol)  
 19637 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%\* U+2921  
 19638 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSym-  
 bol)  
 19639 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%\* U+2922  
 19640 % U+2923 NORTH WEST ARROW WITH HOOK; \hooknwarrow (MnSymbol)  
 19641 \DeclareTextCommand{\textlhooknwarrow}{PU}{\9051\043}%\* U+2923  
 19642 % U+2924 NORTH EAST ARROW WITH HOOK; \hooknearrow (MnSymbol)  
 19643 \DeclareTextCommand{\textrhooknearrow}{PU}{\9051\044}%\* U+2924  
 19644 % U+2925 SOUTH EAST ARROW WITH HOOK; \hooksearrow (MnSymbol)  
 19645 \DeclareTextCommand{\textlhooksearrow}{PU}{\9051\045}%\* U+2925  
 19646 % U+2926 SOUTH WEST ARROW WITH HOOK; \hookswarrow (MnSymbol)  
 19647 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%\* U+2926  
 19648 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)  
 19649 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%\* U+2933  
 19650 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;  
 19651 % \rcurvearrowne (MnSymbol)  
 19652 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%\* U+2934  
 19653 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWN-  
 WARDS;  
 19654 % \lcurvearrowse (MnSymbol)  
 19655 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%\* U+2935  
 19656 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFT-  
 WARDS;  
 19657 % \lcurvearrowsw (MnSymbol)  
 19658 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%\* U+2936  
 19659 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHT-  
 WARDS;  
 19660 % \rcurvearrowse (MnSymbol)  
 19661 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%\* U+2937  
 19662 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (Mn-  
 Symbol)  
 19663 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%\* U+2938

19664 %\* \textlcurvearrowdown -> \RightTorque (marvosym)  
 19665 %\* \textlcurvearrowdown -> \Righttorque (marvosym)  
 19666 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;  
 19667 % \rcurvearrowdown (MnSymbol)  
 19668 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%\* U+2939  
 19669 %\* \textrcurvearrowdown -> \LeftTorque (marvosym)  
 19670 %\* \textrcurvearrowdown -> \Lefttorque (marvosym)  
 19671 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSymbol)  
 19672 \DeclareTextCommand{\textrcurvearrowleft}{PU}{\9051\072}%\* U+293A  
 19673 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;  
 19674 % \rcurvearrowright (MnSymbol)  
 19675 \DeclareTextCommand{\textrcurvearrowright}{PU}{\9051\073}%\* U+293B  
 19676 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrightharpoon (mathabx)  
 19677 \DeclareTextCommand{\textleftrightharpoon}{PU}{\9051\112}%\* U+294A  
 19678 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightleftharpoon (mathabx)  
 19679 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%\* U+294B  
 19680 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;  
 19681 % \updownharpoonrightleft (MnSymbol)  
 19682 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%\* U+294C  
 19683 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;  
 19684 % \updownharpoonleftright (MnSymbol)  
 19685 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%\* U+294D  
 19686 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS  
 19687 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)  
 19688 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%\* U+2962  
 19689 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS  
 19690 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)  
 19691 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%\* U+2963  
 19692 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHTWARDS HARPOON  
 19693 % WITH BARB DOWN; \rightrightarpoons (mathabx)  
 19694 \DeclareTextCommand{\textrightarpoons}{PU}{\9051\144}%\* U+2964  
 19695 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWNWARDS HARPOON  
 19696 % WITH BARB RIGHT; \downdownharpoons (mathabx)  
 19697 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%\* U+2965  
 19698 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;  
 19699 % \leftbarharpoon (mathabx)  
 19700 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%\* U+296A  
 19701 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW  
 19702 % LONG DASH; \barleftharpoon (mathabx)  
 19703 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%\* U+296B  
 19704 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE  
 19705 % LONG DASH; \rightbarharpoon (mathabx)  
 19706 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%\* U+296C  
 19707 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW  
 19708 % LONG DASH; \barrightharpoon (mathabx)  
 19709 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%\* U+296D  
 19710 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWNWARDS HARPOON  
 19711 % WITH BARB RIGHT; \updownharpoons (mathabx)  
 19712 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%\* U+296E  
 19713 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS HARPOON



19714 % WITH BARB RIGHT; \downupharpoons (mathabx)  
 19715 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%\* U+296F  
 19716 % U+297F DOWN FISH TAIL  
 19717 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%\* U+297F U+0336

### 51.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

19718 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \llparenthesis (stmaryrd)  
 19719 \DeclareTextCommand{\textllparenthesis}{PU}{\9051\207}%\* U+2987  
 19720 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)  
 19721 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%\* U+2988  
 19722 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)  
 19723 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%\* U+29B0  
 19724 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)  
 19725 \DeclareTextCommand{\textobar}{PU}{\9051\266}%\* U+29B6  
 19726 %\* \textobar -> \textvarobar (stmaryrd)  
 19727 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)  
 19728 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%\* U+29B8  
 19729 %\* \textobslash -> \circledbslash (txfonts/pxfonts)  
 19730 %\* \textobslash -> \obackslash (mathabx)  
 19731 %\* \textobslash -> \varobslash (stmaryrd)  
 19732 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF  
 19733 % DIVIDED BY VERTICAL BAR; \obot (mathabx)  
 19734 \DeclareTextCommand{\textobot}{PU}{\9051\272}%\* U+29BA  
 19735 %\* \textobot -> \odplus (ulsy)  
 19736 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (marvosym)  
 19737 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%\* U+29BB  
 19738 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)  
 19739 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%\* U+29C0  
 19740 %\* \textolessthan -> \varolessthan (stmaryrd)  
 19741 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)  
 19742 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%\* U+29C1  
 19743 %\* \textogreaterthan -> \varogreaterthan (stmaryrd)  
 19744 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)  
 19745 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%\* U+29C4  
 19746 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)  
 19747 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%\* U+29C5  
 19748 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)  
 19749 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%\* U+29C6  
 19750 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)  
 19751 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%\* U+29C7  
 19752 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)  
 19753 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%\* U+29C8  
 19754 % U+29D3 BLACK BOWTIE; \Valve (marvosym)  
 19755 \DeclareTextCommand{\textValve}{PU}{\9051\323}%\* U+29D3  
 19756 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)  
 19757 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%\* U+29DF  
 19758 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)  
 19759 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%\* U+29E2

### 51.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

19760 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)  
 19761 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%\* U+2A04  
 19762 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)  
 19763 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%\* U+2A07  
 19764 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)  
 19765 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%\* U+2A08

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19766 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,
19767 %   pxfonts, wasysym)
19768 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%* U+2A1D
19769 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)
19770 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%* U+2A1F
19771 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)
19772 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%* U+2A22
19773 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)
19774 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%* U+2A2A
19775 %* \textminusdot -> \divdot (mathabx)
19776 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (math-
19777 %   abx)
19777 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%* U+2A30
19778 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;
19779 %   \dtimes (mathdesign)
19780 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%* U+2A32
19781 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)
19782 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%* U+2A38
19783 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)
19784 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%* U+2A3C
19785 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)
19786 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%* U+2A4E
19787 %* \textsqdoublecap -> \doublesqcap (MnSymbol)
19788 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)
19789 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%* U+2A40
19790 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)
19791 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%* U+2A4F
19792 %* \textsqdoublecup -> \doublesqcup (MnSymbol)
19793 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)
19794 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%* U+2A55
19795 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)
19796 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%* U+2A56
19797 %* \textdoublevee -> \merge (stmaryrd)
19798 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;
19799 %   \doublebarwedge (AmS)
19800 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%* U+2A5E
19801 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;
19802 %   \veedoublebar (mahtabx)
19803 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%* U+2A63
19804 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)
19805 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%* U+2A66
19806 % \neqdot (MnSymbol)
19807 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%* U+2A66 U+0338
19808 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)
19809 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%* U+2A74
19810 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)
19811 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%* U+2A7D
19812 % \nleqslant (txfonts/pxfonts)
19813 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%* U+2A7D U+0338
19814 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)
19815 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%* U+2A7E
19816 % \ngeqslant (txfonts/pxfonts)
19817 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%* U+2A7E U+0338
19818 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)
19819 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%* U+2A85
19820 % \nlessapprox (txfonts/pxfonts)
19821 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%* U+2A85 U+0338

```

19822 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)  
 19823 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%\* U+2A86  
 19824 % \ngtrapprox (txfonts/pxfonts)  
 19825 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%\* U+2A86 U+0338  
 19826 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)  
 19827 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%\* U+2A87  
 19828 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;  
 19829 % \gneq (AmS)  
 19830 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%\* U+2A88  
 19831 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)  
 19832 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%\* U+2A89  
 19833 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)  
 19834 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%\* U+2A8A  
 19835 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-THAN;  
 19836 % \lesseqgtr (AmS)  
 19837 \DeclareTextCommand{\textlesseqgtr}{PU}{\9052\213}%\* U+2A8B  
 19838 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-THAN;  
 19839 % \gtreqless (AmS)  
 19840 \DeclareTextCommand{\textgtreqless}{PU}{\9052\214}%\* U+2A8C  
 19841 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)  
 19842 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%\* U+2A95  
 19843 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)  
 19844 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%\* U+2A96  
 19845 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)  
 19846 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%\* U+2AA6  
 19847 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)  
 19848 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%\* U+2AA7  
 19849 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-Symbol)  
 19850 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%\* U+2AAF  
 19851 % \npreceq (txfonts/pxfonts)  
 19852 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%\* U+2AAF U+0338  
 19853 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-Symbol)  
 19854 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%\* U+2AB0  
 19855 % \nsucceq (txfonts/pxfonts)  
 19856 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%\* U+2AB0 U+0338  
 19857 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \precneq (mathabx)  
 19858 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%\* U+2AB1  
 19859 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succneq (mathabx)  
 19860 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%\* U+2AB2  
 19861 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)  
 19862 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%\* U+2AB3  
 19863 % \npreceqq (txfonts/pxfonts)  
 19864 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%\* U+2AB3 U+0338  
 19865 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)  
 19866 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%\* U+2AB4  
 19867 % \nsucceqq (txfonts/pxfonts)  
 19868 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%\* U+2AB4 U+0338  
 19869 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)  
 19870 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%\* U+2AB5  
 19871 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)  
 19872 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%\* U+2AB6  
 19873 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)  
 19874 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%\* U+2AB7

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19875 % \nprecapprox (txfonts/pxfonts)
19876 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%* U+2AB7 U+0338
19877 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
19878 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
19879 % \nsuccapprox (txfonts/pxfonts)
19880 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%* U+2AB8 U+0338
19881 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnapprox (AmS)
19882 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
19883 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnapprox (AmS)
19884 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%* U+2ABA
19885 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
19886 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
19887 % \nsubseteqq (txfonts/pxfonts, mathabx)
19888 \DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%* U+2AC5 U+0338
19889 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)
19890 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
19891 % \nsupseteqq (mathabx)
19892 \DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%* U+2AC6 U+0338
19893 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
19894 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
19895 %* \textdashV -> \leftVdash (MnSymbol)
19896 % \ndashV (mathabx)
19897 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%* U+2AE3 U+0338
19898 %* \textndashV -> \nleftVdash (MnSymbol)
19899 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)
19900 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
19901 %* \textDashv -> \leftmodels (MnSymbol)
19902 % \nDashv (mathabx)
19903 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%* U+2AE4 U+0338
19904 %* \textnDashv -> \nleftmodels (MnSymbol)
19905 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;
19906 % \DashV (mathabx)
19907 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%* U+2AE5
19908 %* \textDashV -> \leftModels (MnSymbol)
19909 % \nDashV (mathabx)
19910 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%* U+2AE5 U+0338
19911 %* \textnDashV -> \nleftModels (MnSymbol)
19912 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)
19913 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%* U+2AEA
19914 % \ndownmodels (MnSymbol)
19915 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%* U+2AEA U+0338
19916 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)
19917 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%* U+2AEB
19918 % \nupmodels (MnSymbol)
19919 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%* U+2AEB U+0338
19920 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)
19921 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%* U+2AEF
19922 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;
19923 % \interleave (stmaryrd)
19924 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%* U+2AF4
19925 % U+2AFD DOUBLE SOLIDUS OPERATOR; \slash (stmaryrd)
19926 \DeclareTextCommand{\textslash}{PU}{\9052\375}%* U+2AFD
19927 %* \textslash -> \varparallel (txfonts/pxfonts)

```

### 51.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

19928 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)  
 19929 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%\* U+2B20  
 19930 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)  
 19931 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%\* U+2B21

### 51.2.37 Latin Extended-C: U+2C60 to U+2C7F

19932 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J  
 19933 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%\* U+2C7C

### 51.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

19934 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)  
 19935 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%\* U+2E13  
 19936 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)  
 19937 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18  
 19938 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)  
 19939 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%\* U+2E2D

### 51.2.39 Modifier Tone Letters: U+A700 to U+A71F

19940 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)  
 19941 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B  
 19942 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;  
 19943 % \textdownstep (tipa)  
 19944 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

### 51.2.40 Latin Extended-D: U+A720 to U+A7FF

19945 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)  
 19946 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727  
 19947 %\* \textPUheng -> \textheng (tipx)  
 19948 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)  
 19949 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C  
 19950 %\* \textPULhookfour -> \textlhookfour (tipx)  
 19951 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)  
 19952 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730  
 19953 %\* \textPUscf -> \textscf (tipx)  
 19954 % U+A735 LATIN SMALL LETTER AO; \textao lig (tipx)  
 19955 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735  
 19956 %\* \textPUaolig -> \textao lig (tipx)  
 19957 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)  
 19958 \DeclareTextCommand{\textoo}{PU}{\9247\117}%\* U+A74F  
 19959 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT  
 19960 \DeclareTextCommand{\textcircumlow}{PU}{\9247\210}% U+A788

### 51.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

19961 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 19962 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 19963 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 19964 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 51.2.42 Musical Symbols: U+1D100 to U+1D1FF

19965 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)  
 19966 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%\* U+1D13B  
 19967 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)  
 19968 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%\* U+1D13C  
 19969 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)  
 19970 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%\* U+1D13D  
 19971 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)  
 19972 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%\* U+1D13E

19973 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)  
 19974 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%\* U+1D13F  
 19975 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)  
 19976 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%\* U+1D140  
 19977 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)  
 19978 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%\* U+1D15D  
 19979 %\* \textfullnote -> \Ganz (harmony)  
 19980 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)  
 19981 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%\* U+1D15E  
 19982 %\* \texthalfnote -> \Halb (harmony)  
 19983 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)  
 19984 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%\* U+1D15F  
 19985 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)  
 19986 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%\* U+1D160  
 19987 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)  
 19988 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%\* U+1D161  
 19989 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)  
 19990 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%\* U+1D162

#### 51.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19991 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)  
 19992 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%\* U+1F30D  
 19993 % U+1F319 CRESCENT MOON; \Moon (marvosym)  
 19994 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%\* U+1F319  
 19995 % U+1F468 MAN; \ManFace (marvosym)  
 19996 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%\* U+1F468  
 19997 % U+1F469 WOMAN; \WomanFace (marvosym)  
 19998 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%\* U+1F469  
 19999 %\* \textWomanFace -> \Womanface (marvosym)  
 20000 % U+1F4E0 FAX MACHINE; \Fax (marvosym)  
 20001 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%\* U+1F4E0  
 20002 %\* \textFax -> \Faxmachine (marvosym)  
 20003 % U+1F525 FIRE; \Fire (ifsym)  
 20004 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%\* U+1F525

#### 51.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

20005 % U+1F6B2 BICYCLE; \Bicycle (marvosym)  
 20006 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%\* U+1F6B2  
 20007 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)  
 20008 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%\* U+1F6B9  
 20009 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)  
 20010 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%\* U+1F6BA

#### 51.2.45 Miscellaneous

20011 \DeclareTextCommand{\SS}{PU}{SS}%  
 20012 % \textcopyleft (textcomp)  
 20013 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD  
 20014 % \ccnc (ccllicenses)  
 20015 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%\* U+0024 U+20E0  
 20016 % \ccnd (ccllicenses)  
 20017 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%\* U+003D U+20DD  
 20018 % \ccsa (ccllicenses)  
 20019 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%\* U+27F2 U+20DD  
 20020 % \Info (marvosym, china2e)  
 20021 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%\* U+1D422 U+20DE  
 20022 % \CESign (marvosym)  
 20023 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%\* U+0043 U+0045

20024 %\* \textCESign -> \CESign (marvosym)

### 51.2.46 Aliases

Aliases (german.sty)

```
20025 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%
20026 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%
20027 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
20028 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
20029 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}%
20030 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}%
20031 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
20032 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%

```

Aliases (math names)

```
20033 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
20034 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
20035 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
20036 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
20037 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
20038 </puenc>

```

## 51.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```
20039 <*puvnenc>
20040 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
20041 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
20042 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
20043 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
20044 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
20045 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
20046 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
20047 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
20048 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
20049 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
20050 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
20051 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF
20052 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
20053 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
20054 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0
20055 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
20056 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
20057 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
20058 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
20059 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}% U+1EB1
20060 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
20061 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
20062 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5
20063 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD
20064 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}% U+1EA7
20065 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9
20066 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB
20067 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
20068 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
20069 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8

```

20070 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB  
 20071 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 20072 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF  
 20073 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7  
 20074 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}% U+1EC1  
 20075 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3  
 20076 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5  
 20077 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 20078 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
 20079 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 20080 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9  
 20081 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 20082 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 20083 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
 20084 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
 20085 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF  
 20086 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 20087 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1  
 20088 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9  
 20089 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}% U+1ED3  
 20090 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5  
 20091 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7  
 20092 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB  
 20093 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3  
 20094 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}% U+1EDD  
 20095 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF  
 20096 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1  
 20097 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 20098 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
 20099 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 20100 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7  
 20101 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 20102 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9  
 20103 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1  
 20104 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}% U+1EEB  
 20105 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED  
 20106 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF  
 20107 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 20108 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 20109 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 20110 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7  
 20111 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9  
 20112 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
 20113 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
 20114 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}% U+00C0  
 20115 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2  
 20116 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
 20117 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE  
 20118 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6  
 20119 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}% U+1EB0  
 20120 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2  
 20121 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4  
 20122 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4  
 20123 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC  
 20124 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6  
 20125 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8  
 20126 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA



20127 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
 20128 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
 20129 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}% U+00C8  
 20130 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA  
 20131 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 20132 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE  
 20133 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6  
 20134 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0  
 20135 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2  
 20136 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4  
 20137 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
 20138 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
 20139 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}% U+00CC  
 20140 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8  
 20141 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
 20142 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
 20143 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
 20144 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}% U+00D2  
 20145 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE  
 20146 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
 20147 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0  
 20148 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8  
 20149 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2  
 20150 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4  
 20151 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6  
 20152 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA  
 20153 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2  
 20154 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}% U+1EDC  
 20155 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE  
 20156 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0  
 20157 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
 20158 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
 20159 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9  
 20160 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6  
 20161 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
 20162 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8  
 20163 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0  
 20164 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}% U+1EEA  
 20165 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC  
 20166 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE  
 20167 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
 20168 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4  
 20169 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2  
 20170 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6  
 20171 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 20172 </puvnenc>

## 51.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

20173 <\*puarenc>  
 20174 % U+0621;afii57409;ARABIC LETTER HAMZA  
 20175 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621  
 20176 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE  
 20177 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622  
 20178 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE

20179 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623  
 20180 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE  
 20181 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624  
 20182 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW  
 20183 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625  
 20184 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE  
 20185 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626  
 20186 % U+0627;afii57415;ARABIC LETTER ALEF  
 20187 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627  
 20188 % U+0628;afii57416;ARABIC LETTER BEH  
 20189 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628  
 20190 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA  
 20191 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629  
 20192 % U+062A;afii57418;ARABIC LETTER TEH  
 20193 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A  
 20194 % U+062B;afii57419;ARABIC LETTER THEH  
 20195 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B  
 20196 % U+062C;afii57420;ARABIC LETTER JEEM  
 20197 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C  
 20198 % U+062D;afii57421;ARABIC LETTER HAH  
 20199 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D  
 20200 % U+062E;afii57422;ARABIC LETTER KHAH  
 20201 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E  
 20202 % U+062F;afii57423;ARABIC LETTER DAL  
 20203 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F  
 20204 % U+0630;afii57424;ARABIC LETTER THAL  
 20205 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630  
 20206 % U+0631;afii57425;ARABIC LETTER REH  
 20207 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631  
 20208 % U+0632;afii57426;ARABIC LETTER ZAIN  
 20209 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632  
 20210 % U+0633;afii57427;ARABIC LETTER SEEN  
 20211 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633  
 20212 % U+0634;afii57428;ARABIC LETTER SHEEN  
 20213 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634  
 20214 % U+0635;afii57429;ARABIC LETTER SAD  
 20215 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635  
 20216 % U+0636;afii57430;ARABIC LETTER DAD  
 20217 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636  
 20218 % U+0637;afii57431;ARABIC LETTER TAH  
 20219 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637  
 20220 % U+0638;afii57432;ARABIC LETTER ZAH  
 20221 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638  
 20222 % U+0639;afii57433;ARABIC LETTER AIN  
 20223 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639  
 20224 % U+063A;afii57434;ARABIC LETTER GHAIN  
 20225 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A  
 20226 % U+0640;afii57440;ARABIC TATWEEL  
 20227 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640  
 20228 % U+0641;afii57441;ARABIC LETTER FEH  
 20229 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641  
 20230 % U+0642;afii57442;ARABIC LETTER QAF  
 20231 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642  
 20232 % U+0643;afii57443;ARABIC LETTER KAF  
 20233 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643  
 20234 % U+0644;afii57444;ARABIC LETTER LAM  
 20235 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644

20236 % U+0645;afi57445;ARABIC LETTER MEEM  
 20237 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645  
 20238 % U+0646;afi57446;ARABIC LETTER NOON  
 20239 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646  
 20240 % U+0647;afi57470;ARABIC LETTER HEH  
 20241 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647  
 20242 % U+0648;afi57448;ARABIC LETTER WAW  
 20243 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648  
 20244 % U+0649;afi57449;ARABIC LETTER ALEF MAKSURA  
 20245 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649  
 20246 % U+064A;afi57450;ARABIC LETTER YEH  
 20247 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A  
  
 20248 % U+064B;afi57451;ARABIC FATHATAN  
 20249 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B  
 20250 % U+064C;afi57452;ARABIC DAMMATAN  
 20251 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C  
 20252 % U+064D;afi57453;ARABIC KASRATAN  
 20253 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D  
 20254 % U+064E;afi57454;ARABIC FATHA  
 20255 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E  
 20256 % U+064F;afi57455;ARABIC DAMMA  
 20257 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F  
 20258 % U+0650;afi57456;ARABIC KASRA  
 20259 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650  
 20260 % U+0651;afi57457;ARABIC SHADDA  
 20261 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651  
 20262 % U+0652;afi57458;ARABIC SUKUN  
 20263 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652  
  
 Farsi  
 20264 % U+067E ARABIC LETTER PEH; afi57506  
 20265 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E  
 20266 % U+0686 ARABIC LETTER TCHEH; afi57507  
 20267 \DeclareTextCommand{\tch eh}{PU}{\86\206}% U+0686  
 20268 % U+0698 ARABIC LETTER JEH; afi57508  
 20269 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698  
 20270 % U+06A9 ARABIC LETTER KEHEH  
 20271 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9  
 20272 % U+06AF ARABIC LETTER GAF; afi57509  
 20273 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF  
 20274 % U+06CC ARABIC LETTER FARSI YEH  
 20275 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC  
  
 20276 % U+200C ZERO WIDTH NON-JOINER; afi61664  
 20277 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C  
 20278 % U+200D ZERO WIDTH JOINER; afi301  
 20279 \DeclareTextCommand{\noboundary}{PU}{\9040\015}% U+200D  
  
 20280 (/puarenc)  
 20281 (\*psdextra)  
 20282 \Hy@VersionCheck{psdextra.def}  
 20283 \newcommand\*{\psdmapshortnames}{%  
 20284 \let\MVPlus\textMVPlus  
 20285 \let\MVComma\textMVComma  
 20286 \let\MVMinus\textMVMinus  
 20287 \let\MVPeriod\textMVPeriod  
 20288 \let\MVDivision\textMVDivision  
 20289 \let\MVZero\textMVZero

20290 \let\MVOne\textMVOne  
 20291 \let\MVTwo\textMVTwo  
 20292 \let\MVThree\textMVThree  
 20293 \let\MVFour\textMVFour  
 20294 \let\MVFive\textMVFive  
 20295 \let\MVSix\textMVSix  
 20296 \let\MVSeven\textMVSeven  
 20297 \let\MVEight\textMVEight  
 20298 \let\MVNine\textMVNine  
 20299 \let\MVAt\textMVAt  
 20300 \let\copyright\textcopyright  
 20301 \let\twosuperior\texttwosuperior  
 20302 \let\threesuperior\textthreesuperior  
 20303 \let\onesuperior\textonesuperior  
 20304 \let\Thorn\textThorn  
 20305 \let\thorn\textthorn  
 20306 \let\hbar\texthbar  
 20307 \let\hausA\texthausA  
 20308 \let\hausD\texthausD  
 20309 \let\hausK\texthausK  
 20310 \let\barl\textbarl  
 20311 \let\inve\textinve  
 20312 \let\slashc\textslashc  
 20313 \let\scripta\textscripta  
 20314 \let\openo\textopeno  
 20315 \let\rtaild\textrtaild  
 20316 \let\reve\textreve  
 20317 \let\schwa\textschwa  
 20318 \let\niepsilon\textniepsilon  
 20319 \let\repsilon\textrepsilon  
 20320 \let\rhookrepsilon\text\rhookrepsilon  
 20321 \let\scriptg\textscriptg  
 20322 \let\scg\textscg  
 20323 \let\ipagamma\textipagamma  
 20324 \let\babygamma\textbabygamma  
 20325 \let\bari\textbari  
 20326 \let\niota\textniota  
 20327 \let\sci\textsci  
 20328 \let\scn\textscn  
 20329 \let\niphi\textniphi  
 20330 \let\longlegr\textlonglegr  
 20331 \let\scr\textscr  
 20332 \let\invscr\textinvscr  
 20333 \let\esh\textesh  
 20334 \let\baru\textbaru  
 20335 \let\niupsilon\textniupsilon  
 20336 \let\scriptv\textscriptv  
 20337 \let\turnv\textturnv  
 20338 \let\turnw\textturnw  
 20339 \let\turny\textturny  
 20340 \let\scy\textscy  
 20341 \let\yogh\textyogh  
 20342 \let\glotstop\textglotstop  
 20343 \let\revglotstop\textrevglotstop  
 20344 \let\invglotstop\textinvglotstop  
 20345 \let\Gamma\textGamma  
 20346 \let\Delta\textDelta

20347 \let\Theta\textTheta  
 20348 \let\Lambda\textLambda  
 20349 \let\Xi\textXi  
 20350 \let\Pi\textPi  
 20351 \let\Sigma\textSigma  
 20352 \let\Upsilon\textUpsilon  
 20353 \let\Phi\textPhi  
 20354 \let\Psi\textPsi  
 20355 \let\Omega\textOmega  
 20356 \let\alpha\textalpha  
 20357 \let\beta\textbeta  
 20358 \let\gamma\textgamma  
 20359 \let\delta\textdelta  
 20360 \let\epsilon\textepsilon  
 20361 \let\zeta\textzeta  
 20362 \let\eta\texteta  
 20363 \let\theta\texttheta  
 20364 \let\iota\textiota  
 20365 \let\kappa\textkappa  
 20366 \let\lambda\textlambda  
 20367 \let\mugreek\textmugreek  
 20368 \let\nu\textnu  
 20369 \let\xi\textxi  
 20370 \let\pi\textpi  
 20371 \let\rho\textrho  
 20372 \let\varsigma\textvarsigma  
 20373 \let\sigma\textsigma  
 20374 \let\tau\texttau  
 20375 \let\upsilon\textupsilon  
 20376 \let\phi\textphi  
 20377 \let\chi\textchi  
 20378 \let\psi\textpsi  
 20379 \let\omega\textomega  
 20380 \let\scd\textscd  
 20381 \let\scu\textscu  
 20382 \let\iinferior\textiinferior  
 20383 \let\rinferior\textrinferior  
 20384 \let\uinferior\textuinferior  
 20385 \let\vinferior\textvinferior  
 20386 \let\betainferior\textbetainferior  
 20387 \let\gammainferior\textgammainferior  
 20388 \let\rhoinferior\textrhoinferior  
 20389 \let\phiinferior\textphiinferior  
 20390 \let\chiinferior\textchiinferior  
 20391 \let\barsci\textbarsci  
 20392 \let\barp\textbarp  
 20393 \let\barscu\textbarscu  
 20394 \let\htrtaild\texthtrtaild  
 20395 \let\dagger\textdagger  
 20396 \let\bullet\textbullet  
 20397 \let\hdotfor\texthdotfor  
 20398 \let\prime\textprime  
 20399 \let\second\textsecond  
 20400 \let\third\textthird  
 20401 \let\backprime\textbackprime  
 20402 \let\lefttherefore\textlefttherefore  
 20403 \let\fourth\textfourth

20404 \let\diamonddots\textdiamonddots  
 20405 \let\zerosuperior\textzerosuperior  
 20406 \let\isuperior\textisuperior  
 20407 \let\foursuperior\textfoursuperior  
 20408 \let\fivesuperior\textfivesuperior  
 20409 \let\sixsuperior\textsixsuperior  
 20410 \let\sevensuperior\textsevensuperior  
 20411 \let\eightsuperior\texteightsuperior  
 20412 \let\ninesuperior\textninesuperior  
 20413 \let\plussuperior\textplussuperior  
 20414 \let\minussuperior\textminussuperior  
 20415 \let>equalsuperior\textequalsuperior  
 20416 \let\parenleftsuperior\textparenleftsuperior  
 20417 \let\parenrightsuperior\textparenrightsuperior  
 20418 \let\nsuperior\textnsuperior  
 20419 \let\zeroinferior\textzeroinferior  
 20420 \let\oneinferior\textoneinferior  
 20421 \let\twoinferior\texttwoinferior  
 20422 \let\threeinferior\textthreeinferior  
 20423 \let\fourinferior\textfourinferior  
 20424 \let\fiveinferior\textfiveinferior  
 20425 \let\sixinferior\textsixinferior  
 20426 \let\seveninferior\textseveninferior  
 20427 \let\eightinferior\texteightinferior  
 20428 \let\nineinferior\textnineinferior  
 20429 \let\plusinferior\textplusinferior  
 20430 \let\minusinferior\textminusinferior  
 20431 \let>equalsinferior\textequalsinferior  
 20432 \let\parenleftinferior\textparenleftinferior  
 20433 \let\parenrightinferior\textparenrightinferior  
 20434 \let\ainferior\textainferior  
 20435 \let\einferior\texteinferior  
 20436 \let\oinferior\textoinferior  
 20437 \let\xinferior\textxinferior  
 20438 \let\schwainferior\textschwainferior  
 20439 \let\hinferior\texthinferior  
 20440 \let\kinferior\textkinferior  
 20441 \let\linferior\textlinferior  
 20442 \let\minferior\textminferior  
 20443 \let\ninferior\textninferior  
 20444 \let\pinferior\textpinferior  
 20445 \let\sinferior\textsinferior  
 20446 \let\tinferior\texttinferior  
 20447 \let\Deleatur\textDeleatur  
 20448 \let\hslash\texthslash  
 20449 \let\Im\textIm  
 20450 \let\ell\textell  
 20451 \let\wp\textwp  
 20452 \let\Re\textRe  
 20453 \let\mho\textmho  
 20454 \let\riota\textriota  
 20455 \let\Finv\textFinv  
 20456 \let\aleph\textaleph  
 20457 \let\beth\textbeth  
 20458 \let\gimel\textgimel  
 20459 \let\daleth\textdaleth  
 20460 \let\xfax\textfax

20461 \let\Game\textGame  
 20462 \let\leftarrow\textleftarrow  
 20463 \let\uparrow\textuparrow  
 20464 \let\rightarrow\textrightarrow  
 20465 \let\downarrow\textdownarrow  
 20466 \let\leftrightarrow\textleftrightarrow  
 20467 \let\updownarrow\textupdownarrow  
 20468 \let\nwarrow\textnwarrow  
 20469 \let\nearrow\textnearrow  
 20470 \let\searrow\textsearrow  
 20471 \let\swarrow\textswarrow  
 20472 \let\nleftarrow\textnleftarrow  
 20473 \let\nrightarrow\textnrightarrow  
 20474 \let\twoheadleftarrow\texttwoheadleftarrow  
 20475 \let\ntwoheadleftarrow\textntwoheadleftarrow  
 20476 \let\twoheaduparrow\texttwoheaduparrow  
 20477 \let\twoheadrightarrow\texttwoheadrightarrow  
 20478 \let\ntwoheadrightarrow\textntwoheadrightarrow  
 20479 \let\twoheaddownarrow\texttwoheaddownarrow  
 20480 \let\leftarrowtail\textleftarrowtail  
 20481 \let\rightarrowtail\textrightarrowtail  
 20482 \let\mapsto\textmapsto  
 20483 \let\hookleftarrow\texthookleftarrow  
 20484 \let\hookrightarrow\texthookrightarrow  
 20485 \let\looparrowleft\textlooparrowleft  
 20486 \let\looparrowright\textlooparrowright  
 20487 \let\leftrightharpoonup\textleftrightharpoonup  
 20488 \let\lightning\textlightning  
 20489 \let\dlsh\textdlsh  
 20490 \let\curvearrowleft\textcurvearrowleft  
 20491 \let\curvearrowright\textcurvearrowright  
 20492 \let\leftharpoonup\textleftharpoonup  
 20493 \let\leftharpoondown\textleftharpoondown  
 20494 \let\upharpoonright\textupharpoonright  
 20495 \let\upharpoonleft\textupharpoonleft  
 20496 \let\rightarpoonup\textrightarpoonup  
 20497 \let\rightarpoondown\textrightarpoondown  
 20498 \let\downharpoonright\textdownharpoonright  
 20499 \let\downharpoonleft\textdownharpoonleft  
 20500 \let\rightleftarrows\textrightleftarrows  
 20501 \let\updownarrows\textupdownarrows  
 20502 \let\leftrightarrows\textleftrightarrows  
 20503 \let\leftleftarrows\textleftleftarrows  
 20504 \let\upuparrows\textupuparrows  
 20505 \let\righttrightarrows\textrighttrightarrows  
 20506 \let\downdownarrows\textdowndownarrows  
 20507 \let\leftrightharpoons\textleftrightharpoons  
 20508 \let\rightleftharpoons\textrightleftharpoons  
 20509 \let\nLeftarrow\textnLeftarrow  
 20510 \let\nLeftrightarrow\textnLeftrightarrow  
 20511 \let\nRightarrow\textnRightarrow  
 20512 \let\Leftarrow\textLeftarrow  
 20513 \let\Uparrow\textUparrow  
 20514 \let\Rightarrow\textRightarrow  
 20515 \let\Downarrow\textDownarrow  
 20516 \let\Leftrightarrow\textLeftrightarrow  
 20517 \let\Updownarrow\textUpdownarrow

20518  $\backslash\text{let}\backslash\text{Narrow}\backslash\text{textNarrow}$   
 20519  $\backslash\text{let}\backslash\text{Nearrow}\backslash\text{textNearrow}$   
 20520  $\backslash\text{let}\backslash\text{Searrow}\backslash\text{textSearrow}$   
 20521  $\backslash\text{let}\backslash\text{Swarrow}\backslash\text{textSwarrow}$   
 20522  $\backslash\text{let}\backslash\text{Lleftarrow}\backslash\text{textLleftarrow}$   
 20523  $\backslash\text{let}\backslash\text{Rrightarrow}\backslash\text{textRrightarrow}$   
 20524  $\backslash\text{let}\backslash\text{leftsquigarrow}\backslash\text{textleftsquigarrow}$   
 20525  $\backslash\text{let}\backslash\text{rightsquigarrow}\backslash\text{textrightsquigarrow}$   
 20526  $\backslash\text{let}\backslash\text{dashleftarrow}\backslash\text{texdashleftarrow}$   
 20527  $\backslash\text{let}\backslash\text{dasheduparrow}\backslash\text{texdasheduparrow}$   
 20528  $\backslash\text{let}\backslash\text{dashrightarrow}\backslash\text{texdashrightarrow}$   
 20529  $\backslash\text{let}\backslash\text{dasheddownarrow}\backslash\text{texdasheddownarrow}$   
 20530  $\backslash\text{let}\backslash\text{pointer}\backslash\text{textpointer}$   
 20531  $\backslash\text{let}\backslash\text{downuparrows}\backslash\text{texdownuparrows}$   
 20532  $\backslash\text{let}\backslash\text{leftarrowtriangle}\backslash\text{textleftarrowtriangle}$   
 20533  $\backslash\text{let}\backslash\text{rightarrowtriangle}\backslash\text{textrightarrowtriangle}$   
 20534  $\backslash\text{let}\backslash\text{leftrightarrowtriangle}\backslash\text{textleftrightarrowtriangle}$   
 20535  $\backslash\text{let}\backslash\text{forall}\backslash\text{textforall}$   
 20536  $\backslash\text{let}\backslash\text{complement}\backslash\text{textcomplement}$   
 20537  $\backslash\text{let}\backslash\text{partial}\backslash\text{textpartial}$   
 20538  $\backslash\text{let}\backslash\text{exists}\backslash\text{textexists}$   
 20539  $\backslash\text{let}\backslash\text{nexists}\backslash\text{textnexists}$   
 20540  $\backslash\text{let}\backslash\text{emptyset}\backslash\text{textemptyset}$   
 20541  $\backslash\text{let}\backslash\text{triangle}\backslash\text{texttriangle}$   
 20542  $\backslash\text{let}\backslash\text{nabla}\backslash\text{textnabla}$   
 20543  $\backslash\text{let}\backslash\text{in}\backslash\text{textin}$   
 20544  $\backslash\text{let}\backslash\text{notin}\backslash\text{textnotin}$   
 20545  $\backslash\text{let}\backslash\text{smallin}\backslash\text{textsmallin}$   
 20546  $\backslash\text{let}\backslash\text{ni}\backslash\text{textni}$   
 20547  $\backslash\text{let}\backslash\text{notowner}\backslash\text{textnotowner}$   
 20548  $\backslash\text{let}\backslash\text{smallowns}\backslash\text{textsmallowns}$   
 20549  $\backslash\text{let}\backslash\text{prod}\backslash\text{textprod}$   
 20550  $\backslash\text{let}\backslash\text{amalg}\backslash\text{textamalg}$   
 20551  $\backslash\text{let}\backslash\text{sum}\backslash\text{textsum}$   
 20552  $\backslash\text{let}\backslash\text{mp}\backslash\text{textmp}$   
 20553  $\backslash\text{let}\backslash\text{dotplus}\backslash\text{texdotplus}$   
 20554  $\backslash\text{let}\backslash\text{Divides}\backslash\text{textDivides}$   
 20555  $\backslash\text{let}\backslash\text{DividesNot}\backslash\text{textDividesNot}$   
 20556  $\backslash\text{let}\backslash\text{setminus}\backslash\text{textsetminus}$   
 20557  $\backslash\text{let}\backslash\text{ast}\backslash\text{textast}$   
 20558  $\backslash\text{let}\backslash\text{circ}\backslash\text{textcirc}$   
 20559  $\backslash\text{let}\backslash\text{surd}\backslash\text{textsurd}$   
 20560  $\backslash\text{let}\backslash\text{propto}\backslash\text{textpropto}$   
 20561  $\backslash\text{let}\backslash\text{infty}\backslash\text{textinfty}$   
 20562  $\backslash\text{let}\backslash\text{angle}\backslash\text{textangle}$   
 20563  $\backslash\text{let}\backslash\text{measuredangle}\backslash\text{textmeasuredangle}$   
 20564  $\backslash\text{let}\backslash\text{sphericalangle}\backslash\text{textsphericalangle}$   
 20565  $\backslash\text{let}\backslash\text{mid}\backslash\text{textmid}$   
 20566  $\backslash\text{let}\backslash\text{nmid}\backslash\text{textnmid}$   
 20567  $\backslash\text{let}\backslash\text{parallel}\backslash\text{textparallel}$   
 20568  $\backslash\text{let}\backslash\text{nparallel}\backslash\text{textnparallel}$   
 20569  $\backslash\text{let}\backslash\text{wedge}\backslash\text{textwedge}$   
 20570  $\backslash\text{let}\backslash\text{owedge}\backslash\text{textowedge}$   
 20571  $\backslash\text{let}\backslash\text{vee}\backslash\text{textvee}$   
 20572  $\backslash\text{let}\backslash\text{ovee}\backslash\text{textovee}$   
 20573  $\backslash\text{let}\backslash\text{cap}\backslash\text{textcap}$   
 20574  $\backslash\text{let}\backslash\text{cup}\backslash\text{textcup}$



20575 `\let\int\textint`  
 20576 `\let\iint\textiint`  
 20577 `\let\iiint\textiiint`  
 20578 `\let\oint\textoint`  
 20579 `\let\oiint\textoiint`  
 20580 `\let\ointclockwise\textointclockwise`  
 20581 `\let\ointctrlockwise\textointctrlockwise`  
 20582 `\let\therefore\texttherefore`  
 20583 `\let\because\textbecause`  
 20584 `\let\vdotdot\textvdotdot`  
 20585 `\let\squaredots\textsquaredots`  
 20586 `\let\dotminus\textdotminus`  
 20587 `\let\eqcolon\texteqcolon`  
 20588 `\let\sim\textsim`  
 20589 `\let\backsim\textbacksim`  
 20590 `\let\backsim\textnbacksim`  
 20591 `\let\wr\textwr`  
 20592 `\let\sim\textnsim`  
 20593 `\let\eqsim\texteqsim`  
 20594 `\let\neqsim\textneqsim`  
 20595 `\let\simeq\textsimeq`  
 20596 `\let\sim\textnsimeq`  
 20597 `\let\cong\textcong`  
 20598 `\let\cong\textncong`  
 20599 `\let\approx\textapprox`  
 20600 `\let\approx\textnapprox`  
 20601 `\let\approx\textapprox`  
 20602 `\let\approx\textnapprox`  
 20603 `\let\triplesim\texttriplesim`  
 20604 `\let\triplesim\textntriplesim`  
 20605 `\let\backcong\textbackcong`  
 20606 `\let\backcong\textnbackcong`  
 20607 `\let\asymp\textasymp`  
 20608 `\let\asymp\textnasymp`  
 20609 `\let\Bumpeq\textBumpeq`  
 20610 `\let\Bumpeq\textnBumpeq`  
 20611 `\let\bumpeq\textbumpeq`  
 20612 `\let\bumpeq\textnbumpeq`  
 20613 `\let\doteq\textdoteq`  
 20614 `\let\doteq\textndoteq`  
 20615 `\let\doteqdot\textdoteqdot`  
 20616 `\let\ndoteq\textndoteq`  
 20617 `\let\fallingdoteq\textfallingdoteq`  
 20618 `\let\fallingdoteq\textnfallingdoteq`  
 20619 `\let\risingdoteq\textrisingdoteq`  
 20620 `\let\risingdoteq\textnrisingdoteq`  
 20621 `\let\colonequals\textcolonequals`  
 20622 `\let\equalscolon\textequalscolon`  
 20623 `\let\eqcirc\texteqcirc`  
 20624 `\let\neqcirc\textneqcirc`  
 20625 `\let\circeq\textcirceq`  
 20626 `\let\ncirceq\textncirceq`  
 20627 `\let\hateq\texthateq`  
 20628 `\let\hateq\textnhateq`  
 20629 `\let\triangleeq\texttriangleeq`  
 20630 `\let\neq\textneq`  
 20631 `\let\neq\textne`

20632 \let\equiv\textequiv  
 20633 \let\nequiv\textnequiv  
 20634 \let\leq\textleq  
 20635 \let\le\textle  
 20636 \let\geq\textgeq  
 20637 \let\ge\textge  
 20638 \let\leqq\textleqq  
 20639 \let\leqq\textnleqq  
 20640 \let\geqq\textgeqq  
 20641 \let\geqq\textngeqq  
 20642 \let\lneqq\textlneqq  
 20643 \let\gneqq\textgneqq  
 20644 \let\ll\textll  
 20645 \let\nll\textnll  
 20646 \let\gg\textgg  
 20647 \let\ngg\textngg  
 20648 \let\between\textbetween  
 20649 \let\nless\textnless  
 20650 \let\ngtr\textngtr  
 20651 \let\nleq\textnleq  
 20652 \let\ngel\textngeq  
 20653 \let\lessim\textlessim  
 20654 \let\gtrsim\textgtrsim  
 20655 \let\nlessim\textnlessim  
 20656 \let\ngtrsim\textngtrsim  
 20657 \let\lessgtr\textlessgtr  
 20658 \let\gtrless\textgtrless  
 20659 \let\ngtrless\textngtrless  
 20660 \let\nlessgtr\textnlessgtr  
 20661 \let\prec\textprec  
 20662 \let\succ\textsucc  
 20663 \let\preccurlyeq\textpreccurlyeq  
 20664 \let\succcurlyeq\textsucccurlyeq  
 20665 \let\prec\textprec  
 20666 \let\prec\textprec  
 20667 \let\succsim\textsuccsim  
 20668 \let\nsuccsim\textnsuccsim  
 20669 \let\prec\textprec  
 20670 \let\succ\textsucc  
 20671 \let\subset\textsubset  
 20672 \let\supset\textsupset  
 20673 \let\nsubset\textnsubset  
 20674 \let\nsupset\textnsupset  
 20675 \let\subseteq\textsubseteq  
 20676 \let\supseteq\textsupseteq  
 20677 \let\nsubseteq\textnsubseteq  
 20678 \let\nsupseteq\textnsupseteq  
 20679 \let\subsetneq\textsubsetneq  
 20680 \let\supsetneq\textsupsetneq  
 20681 \let\cupdot\textcupdot  
 20682 \let\cupplus\textcupplus  
 20683 \let\squsubseteq\textsqusubseteq  
 20684 \let\nsqusubseteq\textnsqusubseteq  
 20685 \let\squsupset\textsqusupset  
 20686 \let\nsqusupset\textnsqusupset  
 20687 \let\squsubseteq\textsqusubseteq  
 20688 \let\nsqusubseteq\textnsqusubseteq

20689  $\backslash\mathrm{sqsupseteq}\backslash\mathrm{textsqsupseteq}$   
 20690  $\backslash\mathrm{nsqsupseteq}\backslash\mathrm{textnsqsupseteq}$   
 20691  $\backslash\mathrm{sqcap}\backslash\mathrm{textsqcap}$   
 20692  $\backslash\mathrm{sqcup}\backslash\mathrm{textsqcup}$   
 20693  $\backslash\mathrm{oplus}\backslash\mathrm{textoplus}$   
 20694  $\backslash\mathrm{ominus}\backslash\mathrm{textominus}$   
 20695  $\backslash\mathrm{otimes}\backslash\mathrm{textotimes}$   
 20696  $\backslash\mathrm{oslash}\backslash\mathrm{textoslash}$   
 20697  $\backslash\mathrm{odot}\backslash\mathrm{textodot}$   
 20698  $\backslash\mathrm{circledcirc}\backslash\mathrm{textcircledcirc}$   
 20699  $\backslash\mathrm{circledast}\backslash\mathrm{textcircledast}$   
 20700  $\backslash\mathrm{circleddash}\backslash\mathrm{textcircleddash}$   
 20701  $\backslash\mathrm{boxplus}\backslash\mathrm{textboxplus}$   
 20702  $\backslash\mathrm{boxminus}\backslash\mathrm{textboxminus}$   
 20703  $\backslash\mathrm{boxtimes}\backslash\mathrm{textboxtimes}$   
 20704  $\backslash\mathrm{boxdot}\backslash\mathrm{textboxdot}$   
 20705  $\backslash\mathrm{vdash}\backslash\mathrm{textvdash}$   
 20706  $\backslash\mathrm{dashv}\backslash\mathrm{textdashv}$   
 20707  $\backslash\mathrm{ndashv}\backslash\mathrm{textndashv}$   
 20708  $\backslash\mathrm{top}\backslash\mathrm{texttop}$   
 20709  $\backslash\mathrm{ndownvdash}\backslash\mathrm{textndownvdash}$   
 20710  $\backslash\mathrm{bot}\backslash\mathrm{textbot}$   
 20711  $\backslash\mathrm{nupvdash}\backslash\mathrm{textnupvdash}$   
 20712  $\backslash\mathrm{vDash}\backslash\mathrm{textvDash}$   
 20713  $\backslash\mathrm{VDash}\backslash\mathrm{textVDash}$   
 20714  $\backslash\mathrm{Vvdash}\backslash\mathrm{textVvdash}$   
 20715  $\backslash\mathrm{nVdash}\backslash\mathrm{textnVdash}$   
 20716  $\backslash\mathrm{VDash}\backslash\mathrm{textVDash}$   
 20717  $\backslash\mathrm{nvDash}\backslash\mathrm{textnvDash}$   
 20718  $\backslash\mathrm{nvDash}\backslash\mathrm{textnvDash}$   
 20719  $\backslash\mathrm{nVdash}\backslash\mathrm{textnVdash}$   
 20720  $\backslash\mathrm{nVDash}\backslash\mathrm{textnVDash}$   
 20721  $\backslash\mathrm{lhs}\backslash\mathrm{textrhs}$   
 20722  $\backslash\mathrm{rhd}\backslash\mathrm{textrhd}$   
 20723  $\backslash\mathrm{unlhd}\backslash\mathrm{textunlhd}$   
 20724  $\backslash\mathrm{unrhd}\backslash\mathrm{textunrhd}$   
 20725  $\backslash\mathrm{multimapdotbothA}\backslash\mathrm{textmultimapdotbothA}$   
 20726  $\backslash\mathrm{multimapdotbothB}\backslash\mathrm{textmultimapdotbothB}$   
 20727  $\backslash\mathrm{multimap}\backslash\mathrm{textmultimap}$   
 20728  $\backslash\mathrm{veebar}\backslash\mathrm{textveebar}$   
 20729  $\backslash\mathrm{barwedge}\backslash\mathrm{textbarwedge}$   
 20730  $\backslash\mathrm{star}\backslash\mathrm{textstar}$   
 20731  $\backslash\mathrm{divideontimes}\backslash\mathrm{textdivideontimes}$   
 20732  $\backslash\mathrm{bowtie}\backslash\mathrm{textbowtie}$   
 20733  $\backslash\mathrm{ltimes}\backslash\mathrm{textltimes}$   
 20734  $\backslash\mathrm{rtimes}\backslash\mathrm{textrtimes}$   
 20735  $\backslash\mathrm{leftthreetimes}\backslash\mathrm{textleftthreetimes}$   
 20736  $\backslash\mathrm{rightthreetimes}\backslash\mathrm{textrightthreetimes}$   
 20737  $\backslash\mathrm{backsimeq}\backslash\mathrm{textbacksimeq}$   
 20738  $\backslash\mathrm{nbacksimeq}\backslash\mathrm{textnbacksimeq}$   
 20739  $\backslash\mathrm{curlyvee}\backslash\mathrm{textcurlyvee}$   
 20740  $\backslash\mathrm{curlywedge}\backslash\mathrm{textcurlywedge}$   
 20741  $\backslash\mathrm{Subset}\backslash\mathrm{textSubset}$   
 20742  $\backslash\mathrm{nSubset}\backslash\mathrm{textnSubset}$   
 20743  $\backslash\mathrm{Supset}\backslash\mathrm{textSupset}$   
 20744  $\backslash\mathrm{nSupset}\backslash\mathrm{textnSupset}$   
 20745  $\backslash\mathrm{Cap}\backslash\mathrm{textCap}$

20746 \let\Cup\textCup  
 20747 \let\pitchfork\textpitchfork  
 20748 \let\lessdot\textlessdot  
 20749 \let\gtrdot\textgtrdot  
 20750 \let\lll\textlll  
 20751 \let\ggg\textggg  
 20752 \let\lesseqgtr\textlesseqgtr  
 20753 \let\gtreqless\textgtreqless  
 20754 \let\curlyeqprec\textcurlyeqprec  
 20755 \let\ncurlyeqprec\textncurlyeqprec  
 20756 \let\curlyeqsucc\textcurlyeqsucc  
 20757 \let\ncurlyeqsucc\textncurlyeqsucc  
 20758 \let\preccurlyeq\textpreccurlyeq  
 20759 \let\nsucccurlyeq\textnsucccurlyeq  
 20760 \let\sqsubseteq\textsqsubseteq  
 20761 \let\sqsupseteq\textsqsupseteq  
 20762 \let\sqsubsetneq\textsqsubsetneq  
 20763 \let\sqsupsetneq\textsqsupsetneq  
 20764 \let\lnsim\textlnsim  
 20765 \let\gnsim\textgnsim  
 20766 \let\precnsim\textprecnsim  
 20767 \let\succnsim\textsuccnsim  
 20768 \let\triangleleft\texttriangleleft  
 20769 \let\triangleright\texttriangleright  
 20770 \let\trianglelefteq\texttrianglelefteq  
 20771 \let\trianglerighteq\texttrianglerighteq  
 20772 \let\vdots\textvdots  
 20773 \let\cdots\textcdots  
 20774 \let\udots\textudots  
 20775 \let\ddots\textddots  
 20776 \let\barin\textbarin  
 20777 \let\diameter\textdiameter  
 20778 \let\backneg\textbackneg  
 20779 \let\wasylounge\textwasylounge  
 20780 \let\invbackneg\textinvbackneg  
 20781 \let\clock\textclock  
 20782 \let\ulcorner\textulcorner  
 20783 \let\urcorner\texturcorner  
 20784 \let\llcorner\textllcorner  
 20785 \let\lrcorner\textlrcorner  
 20786 \let\frown\textfrown  
 20787 \let\smile\textsmile  
 20788 \let\Keyboard\textKeyboard  
 20789 \let\langle\textlangle  
 20790 \let\rangle\textrangle  
 20791 \let\APLinv\textAPLinv  
 20792 \let\Tumbler\textTumbler  
 20793 \let\notslash\textnotslash  
 20794 \let\notbackslash\textnotbackslash  
 20795 \let\boxbackslash\textboxbackslash  
 20796 \let\APLleftarrowbox\textAPLleftarrowbox  
 20797 \let\APLrightarrowbox\textAPLrightarrowbox  
 20798 \let\APLuparrowbox\textAPLuparrowbox  
 20799 \let\APLdownarrowbox\textAPLdownarrowbox  
 20800 \let\APLinput\textAPLinput  
 20801 \let\Request\textRequest  
 20802 \let\Beam\textBeam

20803 \let\hexagon\texthexagon  
 20804 \let\APLbox\textAPLbox  
 20805 \let\ForwardToIndex\textForwardToIndex  
 20806 \let\RewindToIndex\textRewindToIndex  
 20807 \let\bbslash\textbbslash  
 20808 \let\CircledA\textCircledA  
 20809 \let\CleaningF\textCleaningF  
 20810 \let\CleaningFF\textCleaningFF  
 20811 \let\CleaningP\textCleaningP  
 20812 \let\CleaningPP\textCleaningPP  
 20813 \let\CuttingLine\textCuttingLine  
 20814 \let\UParrow\textUParrow  
 20815 \let\bigtriangleup\textbigtriangleup  
 20816 \let\Forward\textForward  
 20817 \let\triangleright\texttriangleright  
 20818 \let\RHD\textRHD  
 20819 \let\DOWNarrow\textDOWNarrow  
 20820 \let\bigtriangledown\textbigtriangledown  
 20821 \let\Rewind\textRewind  
 20822 \let\triangleleft\texttriangleleft  
 20823 \let\LHD\textLHD  
 20824 \let\diamond\textdiamond  
 20825 \let\lozenge\textlozenge  
 20826 \let\LEFTCIRCLE\textLEFTCIRCLE  
 20827 \let\RIGHTCIRCLE\textRIGHTCIRCLE  
 20828 \let\openbullet\textopenbullet  
 20829 \let\boxbar\textboxbar  
 20830 \let\bigcircle\textbigcircle  
 20831 \let\Cloud\textCloud  
 20832 \let\FiveStar\textFiveStar  
 20833 \let\FiveStarOpen\textFiveStarOpen  
 20834 \let\Phone\textPhone  
 20835 \let\boxempty\textboxempty  
 20836 \let\Checkedbox\textCheckedbox  
 20837 \let\Crossedbox\textCrossedbox  
 20838 \let\Coffeecup\textCoffeecup  
 20839 \let\HandCuffLeft\textHandCuffLeft  
 20840 \let\HandCuffRight\textHandCuffRight  
 20841 \let\HandLeft\textHandLeft  
 20842 \let\HandRight\textHandRight  
 20843 \let\Radioactivity\textRadioactivity  
 20844 \let\Biohazard\textBiohazard  
 20845 \let\Ankh\textAnkh  
 20846 \let\YinYang\textYinYang  
 20847 \let\frownie\textfrownie  
 20848 \let\smiley\textsmiley  
 20849 \let\blacksmiley\textblacksmiley  
 20850 \let\sun\textsun  
 20851 \let\leftmoon\textleftmoon  
 20852 \let\rightmoon\textrightmoon  
 20853 \let\mercury\textmercury  
 20854 \let\earth\textearth  
 20855 \let\male\textmale  
 20856 \let\jupiter\textjupiter  
 20857 \let\saturn\textsaturn  
 20858 \let\uranus\texturanus  
 20859 \let\neptune\textneptune

20860 \let\pluto\textpluto  
 20861 \let\aries\textaries  
 20862 \let\taurus\texttaurus  
 20863 \let\gemini\textgemini  
 20864 \let\cancer\textcancer  
 20865 \let\leo\textleo  
 20866 \let\virgo\textvirgo  
 20867 \let\libra\textlibra  
 20868 \let\scorpio\textscorpio  
 20869 \let\sagittarius\textsagittarius  
 20870 \let\capricornus\textcapricornus  
 20871 \let\aquarius\textaquarius  
 20872 \let\pisces\textpisces  
 20873 \let\quarternote\textquarternote  
 20874 \let\twonotes\texttwonotes  
 20875 \let\sixteenthnote\textsixteenthnote  
 20876 \let\flat\textflat  
 20877 \let\natural\textnatural  
 20878 \let\sharp\textsharp  
 20879 \let\recycle\textrecycle  
 20880 \let\Wheelchair\textWheelchair  
 20881 \let\Flag\textFlag  
 20882 \let\MineSign\textMineSign  
 20883 \let\ds\textds  
 20884 \let\dsmedical\textdsmedical  
 20885 \let\dsjuridical\textdsjuridical  
 20886 \let\dschemical\textdschemical  
 20887 \let\dsbiological\textdsbiological  
 20888 \let\dscommercial\textdscommercial  
 20889 \let\manstar\textmanstar  
 20890 \let\danger\textdanger  
 20891 \let\FemaleFemale\textFemaleFemale  
 20892 \let\MaleMale\textMaleMale  
 20893 \let\FemaleMale\textFemaleMale  
 20894 \let\Hermaphrodite\textHermaphrodite  
 20895 \let\Neutral\textNeutral  
 20896 \let\hexstar\texthexstar  
 20897 \let\SunCloud\textSunCloud  
 20898 \let\Rain\textRain  
 20899 \let\noway\textnoway  
 20900 \let\Mountain\textMountain  
 20901 \let\Tent\textTent  
 20902 \let\ScissorRight\textScissorRight  
 20903 \let\ScissorRightBrokenTop\textScissorRightBrokenTop  
 20904 \let\ScissorHollowRight\textScissorHollowRight  
 20905 \let\PhoneHandset\textPhoneHandset  
 20906 \let\Tape\textTape  
 20907 \let\Plane\textPlane  
 20908 \let\Envelope\textEnvelope  
 20909 \let\Peace\textPeace  
 20910 \let\WritingHand\textWritingHand  
 20911 \let\PencilRightDown\textPencilRightDown  
 20912 \let\PencilRight\textPencilRight  
 20913 \let\PencilRightUp\textPencilRightUp  
 20914 \let\NibRight\textNibRight  
 20915 \let\NibSolidRight\textNibSolidRight  
 20916 \let\Checkmark\textCheckmark

20917 \let\CheckmarkBold\textCheckmarkBold  
 20918 \let\XSolid\textXSolid  
 20919 \let\XSolidBold\textXSolidBold  
 20920 \let\XSolidBrush\textXSolidBrush  
 20921 \let\PlusOutline\textPlusOutline  
 20922 \let\Plus\textPlus  
 20923 \let\PlusThinCenterOpen\textPlusThinCenterOpen  
 20924 \let\PlusCenterOpen\textPlusCenterOpen  
 20925 \let\Cross\textCross  
 20926 \let\CrossOpenShadow\textCrossOpenShadow  
 20927 \let\CrossOutline\textCrossOutline  
 20928 \let\CrossMaltese\textCrossMaltese  
 20929 \let\DavidStar\textDavidStar  
 20930 \let\FourAsterisk\textFourAsterisk  
 20931 \let\JackStar\textJackStar  
 20932 \let\JackStarBold\textJackStarBold  
 20933 \let\ClowerTips\textClowerTips  
 20934 \let\FourStar\textFourStar  
 20935 \let\FourStarOpen\textFourStarOpen  
 20936 \let\FiveStarOpenCircled\textFiveStarOpenCircled  
 20937 \let\FiveStarCenterOpen\textFiveStarCenterOpen  
 20938 \let\FiveStarOpenDotted\textFiveStarOpenDotted  
 20939 \let\FiveStarOutline\textFiveStarOutline  
 20940 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy  
 20941 \let\FiveStarConvex\textFiveStarConvex  
 20942 \let\FiveStarShadow\textFiveStarShadow  
 20943 \let\AsteriskBold\textAsteriskBold  
 20944 \let\AsteriskCenterOpen\textAsteriskCenterOpen  
 20945 \let\EightStarTaper\textEightStarTaper  
 20946 \let\EightStarConvex\textEightStarConvex  
 20947 \let\SixStar\textSixStar  
 20948 \let\EightStar\textEightStar  
 20949 \let\EightStarBold\textEightStarBold  
 20950 \let\TwelveStar\textTwelveStar  
 20951 \let\SixteenStarLight\textSixteenStarLight  
 20952 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved  
 20953 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter  
 20954 \let\Asterisk\textAsterisk  
 20955 \let\SixFlowerAlternate\textSixFlowerAlternate  
 20956 \let\FiveFlowerPetal\textFiveFlowerPetal  
 20957 \let\FiveFlowerOpen\textFiveFlowerOpen  
 20958 \let\EightFlowerPetal\textEightFlowerPetal  
 20959 \let\SunshineOpenCircled\textSunshineOpenCircled  
 20960 \let\SixFlowerAltPetal\textSixFlowerAltPetal  
 20961 \let\SnowflakeChevron\textSnowflakeChevron  
 20962 \let\Snowflake\textSnowflake  
 20963 \let\SnowflakeChevronBold\textSnowflakeChevronBold  
 20964 \let\Sparkle\textSparkle  
 20965 \let\SparkleBold\textSparkleBold  
 20966 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds  
 20967 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved  
 20968 \let\EightAsterisk\textEightAsterisk  
 20969 \let\CircleShadow\textCircleShadow  
 20970 \let\SquareShadowBottomRight\textSquareShadowBottomRight  
 20971 \let\SquareTopRight\textSquareTopRight  
 20972 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight  
 20973 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight

20974 `\let\DiamondSolid\textDiamondSolid`  
 20975 `\let\RectangleThin\textRectangleThin`  
 20976 `\let\Rectangle\textRectangle`  
 20977 `\let\RectangleBold\textRectangleBold`  
 20978 `\let\perp\textperp`  
 20979 `\let\notperp\textnotperp`  
 20980 `\let\veedot\textveedot`  
 20981 `\let\wedgedot\textwedgedot`  
 20982 `\let\leftspoon\textleftspoon`  
 20983 `\let\lbrackdbl\textlbrackdbl`  
 20984 `\let\rbrackdbl\textrbrackdbl`  
 20985 `\let\circlearrowleft\textcirclearrowleft`  
 20986 `\let\circlearrowright\textcirclearrowright`  
 20987 `\let\longleftarrow\textlongleftarrow`  
 20988 `\let\longrightarrow\textlongrightarrow`  
 20989 `\let\longleftarrowright\textlongleftarrowright`  
 20990 `\let\Longleftarrow\textLongleftarrow`  
 20991 `\let\Longrightarrow\textLongrightarrow`  
 20992 `\let\Longleftarrowright\textLongleftarrowright`  
 20993 `\let\longmapsto\textlongmapsto`  
 20994 `\let\Longmapsfrom\textLongmapsfrom`  
 20995 `\let\Longmapsto\textLongmapsto`  
 20996 `\let\nwsearrow\textnwsearrow`  
 20997 `\let\neswarrow\textneswarrow`  
 20998 `\let\hooknwarrow\texthooknwarrow`  
 20999 `\let\rhooknearrow\texthooknearrow`  
 21000 `\let\hooksearrow\texthooksearrow`  
 21001 `\let\rhookswarrow\texthookswarrow`  
 21002 `\let\leadsto\textleadsto`  
 21003 `\let\rcurvearrowne\textrcurvearrowne`  
 21004 `\let\lcurvearrowse\textlcurvearrowse`  
 21005 `\let\lcurvearrowsw\textlcurvearrowsw`  
 21006 `\let\rcurvearrowse\textrcurvearrowse`  
 21007 `\let\lcurvearrowdown\textlcurvearrowdown`  
 21008 `\let\rcurvearrowdown\textrcurvearrowdown`  
 21009 `\let\rcurvearrowleft\textrcurvearrowleft`  
 21010 `\let\rcurvearrowright\textrcurvearrowright`  
 21011 `\let\leftrightharpoon\textleftrightharpoon`  
 21012 `\let\rightleftharpoon\textrightleftharpoon`  
 21013 `\let\updownharpoonrightleft\textupdownharpoonrightleft`  
 21014 `\let\updownharpoonleftright\textupdownharpoonleftright`  
 21015 `\let\leftleftharpoons\textleftleftharpoons`  
 21016 `\let\upupharpoons\textupupharpoons`  
 21017 `\let\righttrightharpoons\textrighttrightharpoons`  
 21018 `\let\downdownharpoons\textdowndownharpoons`  
 21019 `\let\leftbarharpoon\textleftbarharpoon`  
 21020 `\let\barleftharpoon\textbarleftharpoon`  
 21021 `\let\rightbarharpoon\textrightbarharpoon`  
 21022 `\let\barriightharpoon\textbarriightharpoon`  
 21023 `\let\updownharpoons\textupdownharpoons`  
 21024 `\let\downupharpoons\textdownupharpoons`  
 21025 `\let\moo\textmoo`  
 21026 `\let\llparenthesis\textllparenthesis`  
 21027 `\let\rrparenthesis\textrrparenthesis`  
 21028 `\let\invdiameter\textinvdiameter`  
 21029 `\let\obar\textobar`  
 21030 `\let\obslash\textobslash`



21031 `\let\obot\textobot`  
 21032 `\let\NoChemicalCleaning\textNoChemicalCleaning`  
 21033 `\let\olessthan\textolessthan`  
 21034 `\let\ogreaterthan\textogreaterthan`  
 21035 `\let\boxslash\textboxslash`  
 21036 `\let\boxbslash\textboxbslash`  
 21037 `\let\boxast\textboxast`  
 21038 `\let\boxcircle\textboxcircle`  
 21039 `\let\boxbox\textboxbox`  
 21040 `\let\Valve\textValve`  
 21041 `\let\multimapboth\textmultimapboth`  
 21042 `\let\shuffle\textshuffle`  
 21043 `\let\uplus\textuplus`  
 21044 `\let\bigdoublewedge\textbigdoublewedge`  
 21045 `\let\bigdoublevee\textbigdoublevee`  
 21046 `\let\Join\textJoin`  
 21047 `\let\fatsemi\textfatsemi`  
 21048 `\let\circplus\textcircplus`  
 21049 `\let\minusdot\textminusdot`  
 21050 `\let\dottimes\textdottimes`  
 21051 `\let\dtimes\textdtimes`  
 21052 `\let\odiv\textodiv`  
 21053 `\let\invneg\textinvneg`  
 21054 `\let\squdoublecap\textsqudoublecap`  
 21055 `\let\capdot\textcapdot`  
 21056 `\let\squdoublecup\textsqudoublecup`  
 21057 `\let\doublewedge\textdoublewedge`  
 21058 `\let\doublevee\textdoublevee`  
 21059 `\let\doublebarwedge\textdoublebarwedge`  
 21060 `\let\veedoublebar\textveedoublebar`  
 21061 `\let\eqdot\texteqdot`  
 21062 `\let\neqdot\textneqdot`  
 21063 `\let\coloncolonequals\textcoloncolonequals`  
 21064 `\let\leqslant\textleqslant`  
 21065 `\let\neqslant\textneqslant`  
 21066 `\let\geqslant\textgeqslant`  
 21067 `\let\ngeqslant\textngeqslant`  
 21068 `\let\lessapprox\textlessapprox`  
 21069 `\let\nlessapprox\textnlessapprox`  
 21070 `\let\gtrapprox\textgtrapprox`  
 21071 `\let\ngtrapprox\textngtrapprox`  
 21072 `\let\lneq\textlneq`  
 21073 `\let\gneq\textgneq`  
 21074 `\let\lnapprox\textlnapprox`  
 21075 `\let\gnapprox\textgnapprox`  
 21076 `\let\lesseqgtr\textlesseqgtr`  
 21077 `\let\gtreqless\textgtreqless`  
 21078 `\let\eqslantless\texteqslantless`  
 21079 `\let\eqslantgtr\texteqslantgtr`  
 21080 `\let\leftslice\textleftslice`  
 21081 `\let\rightslice\textright slice`  
 21082 `\let\preceq\textpreceq`  
 21083 `\let\preceq\textpreceq`  
 21084 `\let\succeq\textsucceq`  
 21085 `\let\succeq\textsucceq`  
 21086 `\let\precneq\textprecneq`  
 21087 `\let\succneq\textsuccneq`

21088 \let\preceqq\textpreceqq  
 21089 \let\npreceqq\textnpreceqq  
 21090 \let\succeqq\textsucceqq  
 21091 \let\nsucceqq\textnsucceqq  
 21092 \let\precneqq\textprecneqq  
 21093 \let\succneqq\textsuccneqq  
 21094 \let\precapprox\textprecapprox  
 21095 \let\nprecapprox\textnprecapprox  
 21096 \let\succapprox\textsuccapprox  
 21097 \let\nsuccapprox\textnsuccapprox  
 21098 \let\precnapprox\textprecnapprox  
 21099 \let\succnapprox\textsuccnapprox  
 21100 \let\subsepeq\textsubsepeq  
 21101 \let\nsubsepeq\textnsubsepeq  
 21102 \let\supsepeq\textsupsepeq  
 21103 \let\nsupsepeq\textnsupsepeq  
 21104 \let\dashV\textdashV  
 21105 \let\ndashV\textndashV  
 21106 \let\Dashv\textDashv  
 21107 \let\ndashv\textndashv  
 21108 \let\DashV\textDashV  
 21109 \let\ndashV\textndashV  
 21110 \let\downmodels\textdownmodels  
 21111 \let\ndownmodels\textndownmodels  
 21112 \let\upmodels\textupmodels  
 21113 \let\nupmodels\textnupmodels  
 21114 \let\upspoon\textupspoon  
 21115 \let\interleave\textinterleave  
 21116 \let\slash\textslash  
 21117 \let\pentagon\textpentagon  
 21118 \let\varhexagon\textvarhexagon  
 21119 \let\jinferior\textjinferior  
 21120 \let\slashdiv\textslashdiv  
 21121 \let\fivedots\textfivedots  
 21122 \let\oo\textoo  
 21123 \let\GaPa\textGaPa  
 21124 \let\HaPa\textHaPa  
 21125 \let\ViPa\textViPa  
 21126 \let\AcPa\textAcPa  
 21127 \let\SePa\textSePa  
 21128 \let\ZwPa\textZwPa  
 21129 \let\fullnote\textfullnote  
 21130 \let\halfnote\texthalfnote  
 21131 \let\Vier\textVier  
 21132 \let\Acht\textAcht  
 21133 \let\Sech\textSech  
 21134 \let\Zwdr\textZwdr  
 21135 \let\Mundus\textMundus  
 21136 \let\Moon\textMoon  
 21137 \let\ManFace\textManFace  
 21138 \let\WomanFace\textWomanFace  
 21139 \let\Fax\textFax  
 21140 \let\Fire\textFire  
 21141 \let\Bicycle\textBicycle  
 21142 \let\Gentsroom\textGentsroom  
 21143 \let\Ladiesroom\textLadiesroom  
 21144 \let\ccnc\textccnc

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21145 \let\ccsa\textccsa
21146 \let\Info\textInfo
21147 \let\CESign\textCESign
21148 \let\neg\textneg
21149 \let\times\texttimes
21150 \let\div\textdiv
21151 \let\pm\textpm
21152 \let\cdot\textcdot
21153 }% \psdmapshortnames
21154 \newcommand*{\psdaliasnames}{%
21155 \let\epsdice\HyPsd@DieFace
21156 \let\fcdice\HyPsd@DieFace
21157 \let\MoonPha\HyPsd@MoonPha
21158 \let\mathdollar\textdollar
21159 \let\EyesDollar\textdollar
21160 \let\binampersand\textampersand
21161 \let\with\textampersand
21162 \let\mathunderscore\textunderscore
21163 \let\textvertline\textbar
21164 \let\mathsterling\textsterling
21165 \let\pounds\textsterling
21166 \let\brokenvert\textbrokenbar
21167 \let\mathsection\textsection
21168 \let\S\textsection
21169 \let\mathparagraph\textparagraph
21170 \let\MultiplicationDot\textperiodcentered
21171 \let\Squaredot\textperiodcentered
21172 \let\var times\textmultiply
21173 \let\MVMultiplication\textmultiply
21174 \let\eth\dh
21175 \let\crossd\textcrd
21176 \let\textbard\textcrd
21177 \let\bard\textcrd
21178 \let\textcrh\texthbar
21179 \let\crossh\texthbar
21180 \let\planck\texthbar
21181 \let\eng\ng
21182 \let\engma\ng
21183 \let\crossb\textcrb
21184 \let\textbarb\textcrb
21185 \let\barb\textcrb
21186 \let\Florin\textflorin
21187 \let\hv\texthvlig
21188 \let\hausak\texthtk
21189 \let\crossnilambda\textcrlambda
21190 \let\barlambda\textcrlambda
21191 \let\lambdabar\textcrlambda
21192 \let\lambdaslash\textcrlambda
21193 \let\textnrleg\textPUnrleg
21194 \let\textpipevar\textpipe
21195 \let\textdoublepipevar\textdoublepipe
21196 \let\textdoublebarpipevar\textdoublebarpipe
21197 \let\textcrg\textgslash
21198 \let\textdblig\textPUdblig
21199 \let\textqplig\textPUqplig
21200 \let\textcentoldstyle\textslashc
21201 \let\textbarc\textslashc

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21202 \let\inva\textturna  
 21203 \let\vara\textscripta  
 21204 \let\invscripta\textturnscripta  
 21205 \let\rotvara\textturnscripta  
 21206 \let\hookb\texthtb  
 21207 \let\hausab\texthtb  
 21208 \let\varopeno\textopeno  
 21209 \let\curlyc\textctc  
 21210 \let\taild\textrtaild  
 21211 \let\hookd\texthtd  
 21212 \let\hausad\texthtd  
 21213 \let\er\textrhookschwa  
 21214 \let\epsi\textniepsilon  
 21215 \let\hookrevepsilon\texthookrevepsilon  
 21216 \let\closedrevepsilon\textcloserevepsilon  
 21217 \let\barj\textbardotlessj  
 21218 \let\hookg\texthtg  
 21219 \let\varg\textscriptg  
 21220 \let\vod\textipagamma  
 21221 \let\invh\textturnh  
 21222 \let\udesc\textturnh  
 21223 \let\hookh\texthth  
 21224 \let\voicedh\texthth  
 21225 \let\hookheng\texththeng  
 21226 \let\ibar\textbari  
 21227 \let\vari\textniota  
 21228 \let\tildel\textltilde  
 21229 \let\latfric\textbeltl  
 21230 \let\tail\textrtail  
 21231 \let\lz\textlyoghlig  
 21232 \let\invm\textturnm  
 21233 \let\rotm\textturnm  
 21234 \let\legm\textturnmrleg  
 21235 \let\labdentalnas\textltailm  
 21236 \let\emgma\textltailm  
 21237 \let\nj\textltailn  
 21238 \let\enya\textltailn  
 21239 \let\tailn\textrtailn  
 21240 \let\closedniomega\textcloseomega  
 21241 \let\varomega\textcloseomega  
 21242 \let\invr\textturnr  
 21243 \let\rotr\textturnr  
 21244 \let\invlegr\textturnlonglegr  
 21245 \let\tailinvr\textturnrrtail  
 21246 \let\legr\textlonglegr  
 21247 \let\tailr\textrtailr  
 21248 \let\flapr\textfishhookr  
 21249 \let\flap\textfishhookr  
 21250 \let\tails\textrtails  
 21251 \let\curlyesh\textctesh  
 21252 \let\clickt\textturnt  
 21253 \let\tailt\textrtailt  
 21254 \let\ubar\textbaru  
 21255 \let\rotOmega\textniupsilon  
 21256 \let\invv\textturnv  
 21257 \let\pwedge\textturnv  
 21258 \let\invvw\textturnw

21259 \let\rotw\textturnw  
 21260 \let\invy\textturny  
 21261 \let\roty\textturny  
 21262 \let\tailz\texttrtailz  
 21263 \let\curlyz\textctz  
 21264 \let\curlyyogh\textctyogh  
 21265 \let\ejective\textglotstop  
 21266 \let\glottal\textglotstop  
 21267 \let\reveject\textrevglotstop  
 21268 \let\clickc\textstretchc  
 21269 \let\textstretchcvar\textstretchc  
 21270 \let\clickb\textbullseye  
 21271 \let\textObullseye\textbullseye  
 21272 \let\textctjvar\textctj  
 21273 \let\textturnsck\textturnk  
 21274 \let\dz\textdzlig  
 21275 \let\tesh\textteshlig  
 21276 \let\digamma\textdigammagreek  
 21277 \let\hardsign\cyrhrdsn  
 21278 \let\softsign\cyrsoftsn  
 21279 \let\hebsin\hebshin  
 21280 \let\textsck\textPUscK  
 21281 \let\textscm\textPUscm  
 21282 \let\textscp\textPUscp  
 21283 \let\textrevscr\textPUrevscr  
 21284 \let\textrhoKa\textPURhooka  
 21285 \let\textrhoKe\textPURhooke  
 21286 \let\textrhoKepsilon\textPURhookepsilon  
 21287 \let\textrhoKopeno\textPURhookopeno  
 21288 \let\textdoublevertline\textbardbl  
 21289 \let\dag\textdagger  
 21290 \let\ddagger\textdaggerdbl  
 21291 \let\ddag\textdaggerdbl  
 21292 \let\mathellipsis\textellipsis  
 21293 \let\EurDig\texteuro  
 21294 \let\EURdig\texteuro  
 21295 \let\EurHv\texteuro  
 21296 \let\EURhv\texteuro  
 21297 \let\EurCr\texteuro  
 21298 \let\EURcr\texteuro  
 21299 \let\EurTm\texteuro  
 21300 \let\EURtm\texteuro  
 21301 \let\Eur\texteuro  
 21302 \let\Denarius\textDeleatur  
 21303 \let\agemO\textmho  
 21304 \let\EstimatedSign\textestimated  
 21305 \let\Ecommerce\textestimated  
 21306 \let\bindnasrepma\textinvamp  
 21307 \let\parr\textinvamp  
 21308 \let\MVRightArrow\textrightarrow  
 21309 \let\MVRightarrow\textrightarrow  
 21310 \let\MVArrowDown\textdownarrow  
 21311 \let\Force\textdownarrow  
 21312 \let\textglobrise\textnearrow  
 21313 \let\textglobfall\textsearrow  
 21314 \let\Lightning\textlightning  
 21315 \let\Conclusion\textrightarrow

21316 \let\dashedleftarrow\textdashleftarrow  
 21317 \let\dashedrightarrow\textdashrightarrow  
 21318 \let\varnothing\textemptyset  
 21319 \let\owns\textni  
 21320 \let\notni\textnotowner  
 21321 \let\varprop\textpropto  
 21322 \let\varangle\textsphericalangle  
 21323 \let\Anglesign\textsphericalangle  
 21324 \let\AngleSign\textsphericalangle  
 21325 \let\notdivides\textnmid  
 21326 \let\varowedge\textowedge  
 21327 \let\varovee\textovee  
 21328 \let\varint\textint  
 21329 \let\varoint\textoint  
 21330 \let\downtherefore\textbecause  
 21331 \let\textdotdiv\textdotminus  
 21332 \let\AC\textsim  
 21333 \let\wreath\textwr  
 21334 \let\nthickapprox\textnapprox  
 21335 \let\VHF\texttriplesim  
 21336 \let\notasymp\textnasymp  
 21337 \let\Doteq\textdoteqdot  
 21338 \let\corresponds\texthateq  
 21339 \let\Corresponds\texthateq  
 21340 \let\nequal\textneq  
 21341 \let\Congruent\textequiv  
 21342 \let\NotCongruent\textnequiv  
 21343 \let\notequiv\textnequiv  
 21344 \let\LessOrEqual\textleq  
 21345 \let\LargerOrEqual\textgeq  
 21346 \let\apprle\textlesssim  
 21347 \let\apprge\textgtrsim  
 21348 \let\varoplus\textoplus  
 21349 \let\varominus\textominus  
 21350 \let\varotimes\textotimes  
 21351 \let\varoslash\textoslash  
 21352 \let\varodot\textodot  
 21353 \let\ocirc\textcircledcirc  
 21354 \let\varocircle\textcircledcirc  
 21355 \let\varoast\textcircledast  
 21356 \let\oasterisk\textcircledast  
 21357 \let\rightvdash\textvdash  
 21358 \let\leftvdash\textdashv  
 21359 \let\nleftvdash\textndashv  
 21360 \let\downvdash\texttop  
 21361 \let\upvdash\textbot  
 21362 \let\nperp\textnupvdash  
 21363 \let\models\textvDash  
 21364 \let\rightmodels\textvDash  
 21365 \let\rightVdash\textVdash  
 21366 \let\rightModels\textVDash  
 21367 \let\nrightvdash\textnvDash  
 21368 \let\nrightmodels\textnvDash  
 21369 \let\nmodels\textnvDash  
 21370 \let\nrightVdash\textnVdash  
 21371 \let\nrightModels\textnVDash  
 21372 \let\lessclosed\textlhd

21373 \let\gtrclosed\texttrhd  
 21374 \let\leqclosed\textunlhd  
 21375 \let\trianglelefteq\textunlhd  
 21376 \let\geqclosed\textunrhd  
 21377 \let\trianglerighteq\textunrhd  
 21378 \let\Bowtie\textbowtie  
 21379 \let\varcurlyvee\textcurlyvee  
 21380 \let\varcurlywedge\textcurlywedge  
 21381 \let\doublecap\textCap  
 21382 \let\doublecup\textCup  
 21383 \let\varsqsubsetneq\textsqsubsetneq  
 21384 \let\varsqsupsetneq\textsqsupsetneq  
 21385 \let\nlessclosed\textntriangleleft  
 21386 \let\ngtrclosed\textntriangleright  
 21387 \let\Clocklogo\textclock  
 21388 \let\ClockLogo\textclock  
 21389 \let\baro\textstmaryrdbaro  
 21390 \let\varparallelinv\textbbslash  
 21391 \let\CleaningA\textCircledA  
 21392 \let\Kutline\textCuttingLine  
 21393 \let\CutLine\textCuttingLine  
 21394 \let\Cutline\textCuttingLine  
 21395 \let\MoveUp\textUParrow  
 21396 \let\APLup\textbigtriangleup  
 21397 \let\Bleech\textbigtriangleup  
 21398 \let\MoveDown\textDOWNarrow  
 21399 \let\APLdown\textbigtriangledown  
 21400 \let\Diamond\textdiamond  
 21401 \let\varbigcirc\textbigcircle  
 21402 \let\Telefon\textPhone  
 21403 \let\Box\textboxempty  
 21404 \let\CheckedBox\textCheckedbox  
 21405 \let\XBox\textCrossedbox  
 21406 \let\CrossedBox\textCrossedbox  
 21407 \let\rightpointleft\textHandLeft  
 21408 \let\leftpointright\textHandRight  
 21409 \let\PointingHand\textHandRight  
 21410 \let\Pointinghand\textHandRight  
 21411 \let\Radiation\textRadioactivity  
 21412 \let\Yinyang\textYinYang  
 21413 \let\YingYang\textYinYang  
 21414 \let\Yingyang\textYinYang  
 21415 \let\Frowny\textfrownie  
 21416 \let\Smiley\textsmiley  
 21417 \let\Sun\textsun  
 21418 \let\Mercury\textmercury  
 21419 \let\textfemale\textPUfemale  
 21420 \let\female\textPUfemale  
 21421 \let\venus\textPUfemale  
 21422 \let\Venus\textPUfemale  
 21423 \let\Female\textPUfemale  
 21424 \let\Earth\textearth  
 21425 \let\mars\textmale  
 21426 \let\Mars\textmale  
 21427 \let\Male\textmale  
 21428 \let\Jupiter\textjupiter  
 21429 \let\Saturn\textsaturn

21430 \let\Uranus\texturanus  
 21431 \let\Neptune\textneptune  
 21432 \let\Pluto\textpluto  
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 21446 \let\Heart\textheartsuitwhite  
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 21453 \let\textxswup\textdsmilitary  
 21454 \let\textuncrfemale\textPUuncrfemale  
 21455 \let\Football\textSoccerBall  
 21456 \let\CutLeft\textScissorRightBrokenBottom  
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 21459 \let\Leftscissors\textScissorRight  
 21460 \let\Letter\textEnvelope  
 21461 \let\Writinghand\textWritingHand  
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21487 \let\varparallel\textsslash
21488 \let\textheng\textPUheng
21489 \let\textlhookfour\textPUlhookfour
21490 \let\textscf\textPUscf
21491 \let\textaoig\textPUaoig
21492 \let\Ganz\textfullnote
21493 \let\Halb\texthalfnote
21494 \let\Womanface\textWomanFace
21495 \let\Faxmachine\textFax
21496 \let\CEsign\textCESign
21497 }% \psdaliasnames
21498 </psdextra>

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## 52 End of file hyccheck.tex

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21499 <*check>
21500 \typeout{}
21501 \begin{document}
21502 \end{document}
21503 </check>

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